B O N N E V I L L E  P O W E R  A D M I N I S T R A T I O N

# 2010 BPA Rate Case
# Wholesale Power Rate Final Proposal

# REVENUE REQUIREMENT STUDY DOCUMENTATION
## Volume 1

July 2009

WP-10-FS-BPA-02A

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Revenue Requirement Documentation

Volume 1

TABLE OF CONTENTS

Page

## COMMONLY USED ACRONYMS

| | |
|---|---|
| AC | alternating current |
| AFUDC | Allowance for Funds Used During Construction |
| AGC | Automatic Generation Control |
| ALF | Agency Load Forecast (computer model) |
| aMW | average megawatt |
| AMNR | Accumulated Modified Net Revenues |
| ANR | Accumulated Net Revenues |
| AOP | Assured Operating Plan |
| ASC | Average System Cost |
| ATC | Accrual to Cash |
| BAA | Balancing Authority Area |
| BASC | BPA Average System Cost |
| Bcf | billion cubic feet |
| BiOp | Biological Opinion |
| BPA | Bonneville Power Administration |
| Btu | British thermal unit |
| CAISO | California Independent System Operator |
| CBFWA | Columbia Basin Fish & Wildlife Authority |
| CCCT | combined-cycle combustion turbine |
| cfs | cubic feet per second |
| CGS | Columbia Generating Station |
| CHJ | Chief Joseph |
| C/M | consumers per mile of line ratio for LDD |
| COB | California-Oregon Border |
| COE | U.S. Army Corps of Engineers |
| COI | California-Oregon Intertie |
| COSA | Cost of Service Analysis |
| COU | consumer-owned utility |
| Council | Northwest Power and Conservation Council |
| CP | Coincidental Peak |
| CRAC | Cost Recovery Adjustment Clause |
| CRC | Conservation Rate Credit |
| CRFM | Columbia River Fish Mitigation |
| CRITFC | Columbia River Inter-Tribal Fish Commission |
| CSP | Customer System Peak |
| CT | combustion turbine |
| CY | calendar year (January through December) |
| DC | direct current |
| DDC | Dividend Distribution Clause |
| dec | decremental (pertains to generation movement) |
| DJ | Dow Jones |
| DO | Debt Optimization |
| DOE | Department of Energy |
| DOP | Debt Optimization Program |

| | |
|---|---|
| DSI | direct-service industrial customer or direct-service industry |
| DSO | Dispatcher Standing Order |
| EAF | energy allocation factor |
| ECC | Energy Content Curve |
| EIA | Energy Information Administration |
| EIS | Environmental Impact Statement |
| EN | Energy Northwest, Inc. (formerly Washington Public Power Supply System) |
| EPA | Environmental Protection Agency |
| EPP | Environmentally Preferred Power |
| EQR | Electric Quarterly Report |
| ESA | Endangered Species Act |
| F&O | financial and operating reports |
| FBS | Federal base system |
| FCRPS | Federal Columbia River Power System |
| FCRTS | Federal Columbia River Transmission System |
| FERC | Federal Energy Regulatory Commission |
| FELCC | firm energy load carrying capability |
| FPA | Federal Power Act |
| FPS | Firm Power Products and Services (rate) |
| FY | fiscal year (October through September) |
| GAAP | Generally Accepted Accounting Principles |
| GARD | Generation and Reserves Dispatch (computer model) |
| GCL | Grand Coulee |
| GCPs | General Contract Provisions |
| GEP | Green Energy Premium |
| GI | Generation Integration |
| GRI | Gas Research Institute |
| GRSPs | General Rate Schedule Provisions |
| GSP | Generation System Peak |
| GSU | generator step-up transformers |
| GTA | General Transfer Agreement |
| GWh | gigawatthour |
| HLH | heavy load hour |
| HOSS | Hourly Operating and Scheduling Simulator (computer model) |
| HYDSIM | Hydro Simulation (computer model) |
| IDC | interest during construction |
| inc | incremental (pertains to generation movement) |
| IOU | investor-owned utility |
| IP | Industrial Firm Power (rate) |
| IPR | Integrated Program Review |
| IRP | Integrated Resource Plan |
| ISD | incremental standard deviation |
| ISO | Independent System Operator |
| JDA | John Day |
| kaf | thousand (kilo) acre-feet |

| | |
|---|---|
| kcfs | thousand (kilo) cubic feet per second |
| K/I | kilowatthour per investment ratio for LDD |
| ksfd | thousand (kilo) second foot day |
| kV | kilovolt (1000 volts) |
| kVA | kilo volt-ampere (1000 volt-amperes) |
| kVAr | kilo-volt ampere reactive |
| kW | kilowatt (1000 watts) |
| kWh | kilowatthour |
| LDD | Low Density Discount |
| LGIP | Large Generator Interconnection Procedures |
| LLH | light load hour |
| LME | London Metal Exchange |
| LOLP | loss of load probability |
| LRA | Load Reduction Agreement |
| m/kWh | mills per kilowatthour |
| MAE | mean absolute error |
| Maf | million acre-feet |
| MCA | Marginal Cost Analysis |
| MCN | McNary |
| Mid-C | Mid-Columbia |
| MIP | Minimum Irrigation Pool |
| MMBtu | million British thermal units |
| MNR | Modified Net Revenues |
| MOA | Memorandum of Agreement |
| MOP | Minimum Operating Pool |
| MORC | Minimum Operating Reliability Criteria |
| MOU | Memorandum of Understanding |
| MRNR | Minimum Required Net Revenue |
| MVA | mega-volt ampere |
| MVAr | mega-volt ampere reactive |
| MW | megawatt (1 million watts) |
| MWh | megawatthour |
| NCD | non-coincidental demand |
| NEPA | National Environmental Policy Act |
| NERC | North American Electric Reliability Corporation |
| NFB | National Marine Fisheries Service (NMFS) Federal Columbia River Power System (FCRPS) Biological Opinion (BiOp) |
| NIFC | Northwest Infrastructure Financing Corporation |
| NLSL | New Large Single Load |
| NOAA Fisheries | National Oceanographic and Atmospheric Administration Fisheries (officially National Marine Fisheries Service) |
| NOB | Nevada-Oregon Border |
| NORM | Non-Operating Risk Model (computer model) |
| Northwest Power Act | Pacific Northwest Electric Power Planning and Conservation Act |
| NPCC | Northwest Power and Conservation Council |

| | |
|---|---|
| NPV | net present value |
| NR | New Resource Firm Power (rate) |
| NT | Network Transmission |
| NTSA | Non-Treaty Storage Agreement |
| NUG | non-utility generation |
| NWPP | Northwest Power Pool |
| OATT | Open Access Transmission Tariff |
| O&M | operation and maintenance |
| OMB | Office of Management and Budget |
| OTC | Operating Transfer Capability |
| OY | operating year (August through July) |
| PDP | proportional draft points |
| PF | Priority Firm Power (rate) |
| PI | Plant Information |
| PMA | (Federal) Power Marketing Agency |
| PNCA | Pacific Northwest Coordination Agreement |
| PNRR | Planned Net Revenues for Risk |
| PNW | Pacific Northwest |
| POD | Point of Delivery |
| POI | Point of Integration or Point of Interconnection |
| POM | Point of Metering |
| POR | Point of Receipt |
| Project Act | Bonneville Project Act |
| PS | BPA Power Services |
| PSC | power sales contract |
| PSW | Pacific Southwest |
| PTP | Point to Point Transmission (rate) |
| PUD | public or people's utility district |
| RAM | Rate Analysis Model (computer model) |
| RAS | Remedial Action Scheme |
| Reclamation | U.S. Bureau of Reclamation |
| RD | Regional Dialogue |
| REC | Renewable Energy Certificate |
| REP | Residential Exchange Program |
| RevSim | Revenue Simulation Model (component of RiskMod) |
| RFA | Revenue Forecast Application (database) |
| RFP | Request for Proposal |
| RiskMod | Risk Analysis Model (computer model) |
| RiskSim | Risk Simulation Model (component of RiskMod) |
| RMS | Remote Metering System |
| RMSE | root-mean squared error |
| ROD | Record of Decision |
| RPSA | Residential Purchase and Sale Agreement |
| RTF | Regional Technical Forum |
| RTO | Regional Transmission Operator |
| SCADA | Supervisory Control and Data Acquisition |

| | |
|---|---|
| SCCT | single-cycle combustion turbine |
| Slice | Slice of the System (product) |
| SME | subject matter expert |
| TAC | Targeted Adjustment Charge |
| TDA | The Dalles |
| Tcf | trillion cubic feet |
| TPP | Treasury Payment Probability |
| Transmission System Act | Federal Columbia River Transmission System Act |
| TRL | Total Retail Load |
| TRM | Tiered Rate Methodology |
| TS | BPA Transmission Services |
| UAI | Unauthorized Increase |
| UDC | utility distribution company |
| URC | Upper Rule Curve |
| USFWS | U.S. Fish and Wildlife Service |
| VOR | Value of Reserves |
| WECC | Western Electricity Coordinating Council (formerly WSCC) |
| WIT | Wind Integration Team |
| WPRDS | Wholesale Power Rate Development Study |
| WREGIS | Western Renewable Energy Generation Information System |
| WSPP | Western Systems Power Pool |

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# 1. GENERATION REVENUE REQUIREMENTS

## 1.1 Introduction

This chapter documents how Bonneville Power Administration's (BPA) annual generation revenue requirements are determined. Two tables are presented for each year of the rate period (FY 2010-2011) and for the 7(b)(2) period (FY 2012–2015). On the first table, revenue requirements for FY 2010-2011 (the rate period) and 2012 through 2015 (the outyears for the 7(b)(2) Rate Test) 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. These revenue requirements form the basis of both the program and the 7(b)(2) cases for the 7(b)(2) Rate Test.

## 1.2 Income Statement

A more detailed description of the following line items is included in Chapter 4 of the Revenue Requirement Study, WP-10-E-BPA-02. Operating expenses (lines 1-20) include: operations and maintenance expenses for Corps of Engineers (COE) and U.S. Bureau of Reclamation (BOR), and annual expenses for Energy Northwest (EN) (line 3); Colville Settlement Act payments to the Confederated Colville Tribes (line 4); decommissioning expenses for Trojan and other, unfinished nuclear plants (line 5); short-term purchases of power, both balancing power purchases and system augmentation (lines 6 and 7); annual expenses associated with the Residential Exchange Program (line 8); the expense associated with BPA's renewable generation program (line 9); the expense portion of BPA's energy conservation activities (including the Energy Efficiency group) (lines 10); the conservation and renewable discount (line 11); Transmission acquisition and ancillary services expenses necessary to deliver energy to markets (line 12); internal operations expenses necessary to support the power function (line 13); the expense portion of BPA's funding for fish and wildlife protection, mitigation and enhancement pursuant to Section 4(h) of the Northwest Power Act (lines 14); general corporate and administrative expenses (line 15); other miscellaneous expenses (line 16); debt service on capitalized contracts and other fixed, long term contractual obligations (line 17); annual depreciation for BPA, COE, and Reclamation plant-in-service (line 18); and the annual amortization of capital investments in conservation and fish and wildlife activities (line 19).

Federal interest expense is calculated in generation repayment studies on appropriations granted by Congress for COE and Reclamation capital investments (line 23) and bonds that BPA issues to the U.S. Treasury (line 25). Bond interest is reduced by interest income from BPA's projected cash reserves (line 28). The capitalization adjustment and the Allowance for Funds Used During Construction (AFUDC) (lines 24 and 27) 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 Bonneville Appropriations Refinancing Act.

Planned net revenues (lines 31-33) are included to ensure coverage of planned amortization and irrigation assistance payments (minimum required net revenues) and to meet the Administrator's risk mitigation policy (planned net revenues for risk). See Risk Analysis and Mitigation Study, WP-10-FS-BPA-04 for a discussion of BPA risk mitigation policy and planned net revenues for risk.

### 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 and irrigation assistance payments. It is the amount by which these planned payments to the U.S. Treasury exceed the expenses that do not require cash outlays. Non-cash expenses include depreciation and amortization (line 4), amortization of capitalized bond premiums (line 5), the capitalization adjustment (line 6), and accrual revenues (line 7).

Cash Used for Capital Investments: Investment in utility plant (line 11) is the increase in Reclamation investment for appropriated additions to plant for the COE and Reclamation and for capital outlays associated with BPA capital equipment and the direct-funding of COE and Reclamation investments. Investment in conservation (line 12) and fish and wildlife (line 13) is the annual capital outlays for these intangible assets.

Cash from Treasury Borrowing and Appropriations: Increase in bonds issued to the U.S. Treasury (line 16) is the annual increment in bonds that BPA issues to Treasury to fund capital outlays for capital equipment, Reclamation and COE investments that BPA plans to direct-fund, and BPA conservation and fish and wildlife investments. Repayment of bonds issued to the U.S. Treasury (line 17) is planned amortization of bonds issued to Treasury, as determined in generation repayment studies. Increase in Federal construction appropriations (line 18) is projected annual appropriations to fund new COE and Reclamation plant-in-service that BPA did not direct-fund with bonds issued to Treasury. Repayment of Federal construction appropriations (line 19) is planned amortization of investments associated with the COE and Reclamation, as determined in generation repayment studies. Payment of irrigation assistance (line 20) is the projected payment of appropriated capital construction costs of Reclamation irrigation facilities that have been determined to be beyond the ability of irrigators to pay and allocated to generation revenues for repayment.

The revenue requirements for the 7(b)(2) case reflect the required exclusion of costs associated with energy conservation, the Residential Exchange Program, and resources acquired under the authority of the Northwest Power Act. These revenue requirements are determined according to the same cost accounting methodology as those in the program case and reflect the same risk mitigation (equivalent annual cash flows) when such is specified.

**Table 1A**

**GENERATION REVENUE REQUIREMENT**
**INCOME STATEMENT**
**($000s)**

| | | 2010 | 2011 |
|---|---|---|---|
| 1 | OPERATING EXPENSES | | |
| 2 | POWER SYSTEM GENERATION RESOURCES | | |
| 3 | OPERATING GENERATION | 566,645 | 644,193 |
| 4 | OPERATING GENERATION SETTLEMENT PAYMENT | 21,328 | 21,754 |
| 5 | NON-OPERATING GENERATION | 2,618 | 2,728 |
| 6 | CONTRACTED POWER PURCHASES | 89,673 | 74,727 |
| 7 | AUGMENTATION POWER PURCHASES | 180,599 | 272,917 |
| 8 | EXCHANGES & SETTLEMENTS | 2,421 | 1,440 |
| 9 | RENEWABLE GENERATION | 45,588 | 44,638 |
| 10 | GENERATION CONSERVATION | 55,988 | 55,622 |
| 11 | CONSERVATION AND RENEWABLE DISCOUNT | 28,000 | 29,500 |
| 12 | PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES | 177,717 | 176,591 |
| 13 | POWER NON-GENERATION OPERATIONS | 78,601 | 81,667 |
| 14 | F&W/USF&W/PLANNING COUNCIL/ENVIRONMENTAL REQUIREMENTS | 248,583 | 270,714 |
| 15 | GENERAL AND ADMINISTRATIVE/SHARED SERVICES | 65,408 | 65,643 |
| 16 | OTHER INCOME, EXPENSES AND ADJUSTMENTS | - | - |
| 17 | NON-FEDERAL DEBT SERVICE | 565,486 | 581,494 |
| 18 | DEPRECIATION | 120,111 | 121,235 |
| 19 | AMORTIZATION | 77,728 | 85,699 |
| 20 | TOTAL OPERATING EXPENSES | 2,326,493 | 2,530,562 |
| | | | |
| 21 | INTEREST EXPENSE: | | |
| 22 | INTEREST | | |
| 23 | APPROPRIATED FUNDS | 223,278 | 212,832 |
| 24 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) |
| 25 | BONDS ISSUED TO U.S. TREASURY | 42,061 | 58,140 |
| 26 | AMORTIZATION OF CAPITALIZED BOND PREMIUMS | 185 | 185 |
| 27 | ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION | (11,437) | (10,896) |
| 28 | INTEREST CREDIT | (41,032) | (41,023) |
| 29 | NET INTEREST EXPENSE | 167,119 | 173,301 |
| | | | |
| 30 | TOTAL EXPENSES | 2,493,611 | 2,703,863 |
| | | | |
| 31 | MINIMUM REQUIRED NET REVENUES 1/ | 54,110 | 46,505 |
| 32 | PLANNED NET REVENUES FOR RISK | | |
| 33 | PLANNED NET REVENUES, TOTAL (31+32) | 54,110 | 46,505 |
| | | | |
| 34 | TOTAL REVENUE REQUIREMENT | 2,547,722 | 2,750,369 |

1/ SEE NOTE ON CASH FLOW STATEMENT

## Table 1B

### GENERATION REVENUE REQUIREMENT
### STATEMENT OF CASH FLOWS
### ($000s)

| | | 2010 | 2011 |
|---|---|---|---|
| 1 | CASH FROM OPERATING ACTIVITIES | | |
| 2 | MINIMUM REQUIRED NET REVENUES 1/ | 54,110 | 46,505 |
| 3 | NON-CASH ITEMS: | | |
| 4 | DEPRECIATION AND AMORTIZATION | 197,839 | 206,934 |
| 5 | AMORTIZATION OF CAPITALIZED BOND PREMIUM | 185 | 185 |
| 6 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) |
| 7 | ACCRUAL REVENUES | (3,524) | (3,524) |
| 8 | CASH PROVIDED BY OPERATING ACTIVITIES | 202,673 | 204,163 |
| | | | |
| 9 | CASH FROM INVESTMENT ACTIVITIES: | | |
| 10 | INVESTMENT IN: | | |
| 11 | UTILITY PLANT (INCLUDING AFUDC) | (259,035) | (271,274) |
| 12 | CONSERVATION | (32,819) | (39,592) |
| 13 | FISH & WILDLIFE | (70,000) | (60,000) |
| 14 | CASH USED FOR INVESTMENT ACTIVITIES | (361,854) | (370,866) |
| | | | |
| 15 | CASH FROM BORROWING AND APPROPRIATIONS: | | |
| 16 | INCREASE IN BONDS ISSUED TO U.S. TREASURY | 260,400 | 270,800 |
| 17 | REPAYMENT OF BONDS ISSUED TO U.S. TREASURY | (68) | (60,000) |
| 18 | INCREASE IN FEDERAL CONSTRUCTION APPROPRIAT | 101,454 | 100,066 |
| 19 | REPAYMENT OF FEDERAL CONSTRUCTION APPROPR | (202,605) | (144,163) |
| 20 | PAYMENT OF IRRIGATION ASSISTANCE | 0 | 0 |
| 21 | CASH PROVIDED BY BORROWING AND APPROPRIATIONS | 159,181 | 166,703 |
| | | | |
| 22 | ANNUAL INCREASE (DECREASE) IN CASH | 0 | 0 |
| | | | |
| 23 | PLANNED NET REVENUES FOR RISK | 0 | 0 |
| | | | |
| 24 | TOTAL ANNUAL INCREASE (DECREASE) IN CASH | 0 | 0 |

1/ Line 22 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.

**Table 1C**

**OUTYEAR GENERATION REVENUE REQUIREMENT**
**INCOME STATEMENT**
**($000s)**

| | | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| 1 | OPERATING EXPENSES | | | | |
| 2 | POWER SYSTEM GENERATION RESOURCES | | | | |
| 3 | OPERATING GENERATION RESOURCES | 664,531 | 752,914 | 689,177 | 764,158 |
| 4 | OPERATING GENERATION SETTLEMENT PAYMENTS | 22,189 | 22,633 | 23,086 | 23,533 |
| 5 | NON-OPERATING GENERATION | 2,738 | 2,848 | 2,958 | 3,068 |
| 6 | CONTRACTED POWER PURCHASES | 88,090 | 80,433 | 83,541 | 48,104 |
| 7 | AUGMENTATION POWER PURCHASES | 211,656 | 310,848 | 308,232 | 415,263 |
| 8 | EXCHANGES & SETTLEMENTS | 2,564 | 1,583 | 2,604 | 1,700 |
| 9 | RENEWABLE GENERATION | 75,214 | 76,404 | 77,096 | 77,096 |
| 10 | GENERATION CONSERVATION | 58,999 | 59,311 | 58,717 | 58,717 |
| 11 | CONSERVATION AND RENEWABLE DISCOUNT | 32,000 | 32,000 | 32,000 | 32,000 |
| 12 | PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES | 174,840 | 174,299 | 176,965 | 175,625 |
| 13 | POWER NON-GENERATION OPERATIONS | 90,051 | 90,192 | 93,218 | 96,588 |
| 14 | F&W/USF&W/PLANNING COUNCIL/ENVIRONMENTAL REQUIREMENTS | 292,635 | 300,434 | 291,521 | 298,942 |
| 15 | GENERAL AND ADMINISTRATIVE/SHARED SERVICES | 70,318 | 72,302 | 74,332 | 76,373 |
| 16 | OTHER INCOME, EXPENSES AND ADJUSTMENTS | - | - | - | - |
| 17 | NON-FEDERAL DEBT SERVICE | 673,451 | 630,760 | 665,438 | 640,122 |
| 18 | DEPRECIATION | 124,355 | 128,222 | 135,903 | 139,661 |
| 19 | AMORTIZATION | 78,564 | 85,209 | 90,310 | 92,749 |
| 20 | TOTAL OPERATING EXPENSES | 2,662,195 | 2,820,393 | 2,805,098 | 2,943,699 |
| | | | | | |
| 21 | INTEREST EXPENSE: | | | | |
| 22 | INTEREST | | | | |
| 23 | APPROPRIATED FUNDS | 207,809 | 208,753 | 211,118 | 209,142 |
| 24 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) | (45,937) | (45,937) |
| 25 | BONDS ISSUED TO U.S. TREASURY | 77,206 | 96,999 | 117,180 | 136,771 |
| 26 | AMORTIZATION OF CAPITALIZED BOND PREMIUMS | 185 | 185 | 185 | 185 |
| 27 | ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION | (11,054) | (11,073) | (11,100) | (11,116) |
| 28 | INTEREST CREDIT ON CASH RESERVES | (40,294) | (42,004) | (41,974) | (43,517) |
| 29 | NET INTEREST EXPENSE | 187,915 | 206,923 | 229,472 | 245,528 |
| | | | | | |
| 30 | TOTAL EXPENSES | 2,850,110 | 3,027,316 | 3,034,570 | 3,189,228 |
| | | | | | |
| 31 | MINIMUM REQUIRED NET REVENUES 1/ | - | 27,037 | - | - |
| 32 | PLANNED NET REVENUES FOR RISK | | | | |
| 33 | PLANNED NET REVENUES, TOTAL (31+32) | - | 27,037 | - | - |
| | | | | | |
| 34 | TOTAL REVENUE REQUIREMENT | 2,850,110 | 3,054,353 | 3,034,570 | 3,189,228 |

1/ SEE NOTE ON CASH FLOW STATEMENT

**Table 1D**

## OUTYEAR GENERATION REVENUE REQUIREMENT
## STATEMENT OF CASH FLOWS
## ($000s)

| | | A | B | C | D |
|---|---|---|---|---|---|
| | | 2012 | 2013 | 2014 | 2015 |
| 1 | CASH FROM OPERATING ACTIVITIES | | | | |
| 2 | MINIMUM REQUIRED NET REVENUES 1/ | - | 27,037 | - | - |
| 3 | NON-CASH ITEMS: | | | | |
| 4 | DEPRECIATION AND AMORTIZATION | 202,919 | 213,431 | 226,213 | 232,410 |
| 5 | AMORTIZATION OF CAPITALIZED BOND PREMIUMS | 185 | 185 | 185 | 185 |
| 6 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) | (45,937) | (45,937) |
| 7 | ACCRUAL REVENUES | (3,524) | (3,524) | (3,524) | (3,524) |
| 8 | CASH PROVIDED BY OPERATING ACTIVITIES | 153,643 | 191,192 | 176,937 | 183,134 |
| | | | | | |
| 9 | CASH FROM INVESTMENT ACTIVITIES: | | | | |
| 10 | INVESTMENT IN: | | | | |
| 11 | UTILITY PLANT (INCLUDING AFUDC) | (269,693) | (395,314) | (272,796) | (260,072) |
| 12 | CONSERVATION | (47,203) | (47,221) | (47,224) | (47,224) |
| 13 | FISH & WILDLIFE | (50,000) | (50,000) | (50,000) | (50,000) |
| 14 | CASH USED FOR INVESTMENT ACTIVITIESS | (366,896) | (492,535) | (370,020) | (357,296) |
| | | | | | |
| 15 | CASH FROM BORROWING AND APPROPRIATIONS: | | | | |
| 16 | INCREASE IN BONDS ISSUED TO U.S. TREASURY | 291,632 | 301,892 | 303,796 | 303,796 |
| 17 | REPAYMENT OF BONDS ISSUED TO U.S. TREASURY | (92,800) | (10,000) | (15,950) | (32,819) |
| 18 | INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS | 75,264 | 190,643 | 66,224 | 53,500 |
| 19 | REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS | (46,834) | (121,165) | (81,259) | (21,002) |
| 20 | PAYMENT OF IRRIGATION ASSISTANCE | (1,206) | (60,027) | (53,500) | (122,193) |
| 21 | CASH PROVIDED BY BORROWING AND APPROPRIATIONS | 226,056 | 301,343 | 219,311 | 181,283 |
| | | | | | |
| 22 | ANNUAL INCREASE (DECREASE) IN CASH | 12,803 | - | 26,228 | 7,121 |
| | | | | | |
| 23 | PLANNED NET REVENUES FOR RISK | - | - | - | - |
| | | | | | |
| 24 | TOTAL ANNUAL INCREASE (DECREASE) IN CASH | 12,803 | - | 26,228 | 7,121 |

1/ Line 22 must be greater than or equal to zero to indicate that cash cost recovery requirements are being achieved. If not, net revenues (MRNR) are added so that net cash flows for the year (Line 22) are zero.

## Table 1E

### 7(b)(2) GENERATION REVENUE REQUIREMENT
### INCOME STATEMENT
### ($000s)

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | OPERATING EXPENSES | | | | | | |
| 2 | POWER SYSTEM GENERATION RESOURCES | | | | | | |
| 3 | OPERATING GENERATION RESOURCES | 536,189 | 613,425 | 634,703 | 722,394 | 658,034 | 732,253 |
| 4 | OPERATING GENERATION SETTLEMENT PAYMENTS | 21,328 | 21,754 | 22,189 | 22,633 | 23,086 | 23,533 |
| 5 | NON-OPERATING GENERATION | 2,618 | 2,728 | 2,738 | 2,848 | 2,958 | 3,068 |
| 6 | CONTRACTED POWER PURCHASES | 89,673 | 74,727 | 88,090 | 80,433 | 83,541 | 48,104 |
| 7 | AUGMENTATION POWER PURCHASES | 180,599 | 272,917 | 211,656 | 310,848 | 308,232 | 415,263 |
| 8 | EXCHANGES & SETTLEMENTS | | | | | | |
| 9 | RENEWABLE GENERATION | | | | | | |
| 10 | GENERATION CONSERVATION | | | | | | |
| 11 | CONSERVATION AND RENEWABLE DISCOUNT | | | | | | |
| 12 | PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES | 177,717 | 176,591 | 174,840 | 174,299 | 176,965 | 175,625 |
| 13 | POWER NON-GENERATION OPERATIONS | 67,245 | 69,664 | 77,277 | 77,039 | 79,669 | 82,315 |
| 14 | F&W/USF&W/PLANNING COUNCIL/ENVIRONMENTAL REQUIREMI | 248,583 | 270,714 | 292,635 | 300,434 | 291,521 | 298,942 |
| 15 | GENERAL AND ADMINISTRATIVE/SHARED SERVICES | 52,952 | 52,741 | 56,675 | 58,227 | 59,843 | 61,325 |
| 16 | OTHER INCOME, EXPENSES AND ADJUSTMENTS | - | - | - | - | - | - |
| 17 | NON-FEDERAL DEBT SERVICE | 546,641 | 562,811 | 654,775 | 612,105 | 646,793 | 626,096 |
| 18 | DEPRECIATION | 120,111 | 121,235 | 124,355 | 128,222 | 135,903 | 139,661 |
| 19 | AMORTIZATION | 28,842 | 31,423 | 32,663 | 34,435 | 36,300 | 38,860 |
| 20 | TOTAL OPERATING EXPENSES | 2,072,497 | 2,270,731 | 2,372,596 | 2,523,918 | 2,502,845 | 2,645,045 |
| | | | | | | | |
| 21 | INTEREST EXPENSE: | | | | | | |
| 22 | INTEREST | | | | | | |
| 23 | APPROPRIATED FUNDS | 216,214 | 206,330 | 201,511 | 199,688 | 203,840 | 203,434 |
| 24 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) | (45,937) | (45,937) | (45,937) | (45,937) |
| 25 | BONDS ISSUED TO U.S. TREASURY | 36,504 | 51,514 | 68,250 | 88,840 | 106,709 | 124,182 |
| 26 | AMORTIZATION OF CAPITALIZED BOND PREMIUMS | | | | | | |
| 27 | ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION | (10,800) | (10,200) | (10,200) | (10,200) | (10,200) | (10,200) |
| 28 | INTEREST INCOME | (40,688) | (40,691) | (38,967) | (40,323) | (39,855) | (40,679) |
| 29 | NET INTEREST EXPENSE | 155,294 | 161,016 | 174,657 | 192,068 | 214,558 | 230,800 |
| | | | | | | | |
| 30 | TOTAL EXPENSES | 2,227,791 | 2,431,747 | 2,547,253 | 2,715,986 | 2,717,403 | 2,875,844 |
| | | | | | | | |
| 31 | MINIMUM REQUIRED NET REVENUES 1/ | 97,908 | 96,496 | - | 43,137 | - | 3,141 |
| 32 | PLANNED NET REVENUES FOR RISK | | | | | | |
| 33 | PLANNED NET REVENUES, TOTAL (31+32) | 97,908 | 96,496 | - | 43,137 | - | 3,141 |
| | | | | | | | |
| 34 | TOTAL REVENUE REQUIREMENT | 2,325,698 | 2,528,243 | 2,547,253 | 2,759,122 | 2,717,403 | 2,878,986 |

1/ SEE NOTE ON CASH FLOW STATEMENT

**Table 1F**

**7(b)(2) GENERATION REVENUE REQUIREMENT**
**STATEMENT OF CASH FLOWS**
**($000s)**

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | CASH FROM OPERATING ACTIVITIES | | | | | | |
| 2 | MINIMUM REQUIRED NET REVENUES 1/ | 97,908 | 96,496 | - | 43,137 | - | 3,141 |
| 3 | NON-CASH ITEMS: | | | | | | |
| 4 | DEPRECIATION AND AMORTIZATION | 148,953 | 152,658 | 157,018 | 162,657 | 172,203 | 178,521 |
| 5 | AMORTIZATION OF CAPITALIZED BOND PREMIUMS | - | - | - | - | - | - |
| 6 | CAPITALIZATION ADJUSTMENT | (45,937) | (45,937) | (45,937) | (45,937) | (45,937) | (45,937) |
| 7 | ACCRUAL REVENUES | (3,524) | (3,524) | (3,524) | (3,524) | (3,524) | (3,524) |
| 8 | CASH PROVIDED BY OPERATING ACTIVITIES | 197,400 | 199,693 | 107,557 | 156,333 | 122,742 | 132,201 |
| | | | | | | | |
| 9 | CASH FROM INVESTMENT ACTIVITIES: | | | | | | |
| 10 | INVESTMENT IN: | | | | | | |
| 11 | UTILITY PLANT (INCLUDING AFUDC) | (291,854) | (310,866) | (301,364) | (426,943) | (304,224) | (291,500) |
| 12 | CONSERVATION | - | - | - | - | - | - |
| 13 | FISH & WILDLIFE | (70,000) | (60,000) | (50,000) | (50,000) | (50,000) | (50,000) |
| 14 | CASH USED FOR INVESTMENT ACTIVITIESS | (361,854) | (370,866) | (351,364) | (476,943) | (354,224) | (341,500) |
| | | | | | | | |
| 15 | CASH FROM BORROWING AND APPROPRIATIONS: | | | | | | |
| 16 | INCREASE IN BONDS ISSUED TO U.S. TREASURY | 260,400 | 270,800 | 276,100 | 286,300 | 288,000 | 288,000 |
| 17 | REPAYMENT OF BONDS ISSUED TO U.S. TREASURY | (68) | (60,000) | (20,000) | - | (950) | - |
| 18 | INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS | 101,454 | 100,066 | 75,264 | 190,643 | 66,224 | 53,500 |
| 19 | REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS | (197,332) | (139,693) | (85,520) | (96,306) | (59,308) | (4,389) |
| 20 | PAYMENT OF IRRIGATION ASSISTANCE | - | - | (1,206) | (60,027) | (53,500) | (127,812) |
| 21 | CASH PROVIDED BY BORROWING AND APPROPRIATIONS | 164,454 | 171,173 | 244,638 | 320,610 | 240,466 | 209,299 |
| | | | | | | | |
| 22 | ANNUAL INCREASE (DECREASE) IN CASH | - | - | 831 | - | 8,984 | - |
| | | | | | | | |
| 23 | PLANNED NET REVENUES FOR RISK | - | - | - | - | - | - |
| | | | | | | | |
| 24 | TOTAL ANNUAL INCREASE (DECREASE) IN CASH | - | - | 831 | - | 8,984 | - |

1/ Line 22 must be greater than or equal to zero to indicate that cash cost recovery requirements are being achieved. If not, net revenues (MRNR) are added so that net cash flows for the year (Line 22) are zero.

## 2. COST ANALYSES

### 2.1 Introduction

This chapter documents the development of the costs necessary for ratemaking from the annual generation revenue requirements. For The Itemized Revenue Requirement in the Cost of Service Analysis (COSA), the total generation revenue requirements (all years of both the program and 7(b)(2) cases) are assigned to each Federal Columbia River Power System (FCRPS) resource pool according to the necessary level of detail. The interbusiness unit embedded costs, generation inputs to ancillary services, synchronous condensing and COE and Reclamation transmission, are developed from the COSA data. In addition, accrued expenses and the Minimum Required Net Revenues for the Slice revenue requirement are verified for consistency with the total generation revenue requirement.

Data development for the COSA, interbusiness unit embedded costs, and the Slice revenue requirement are derived from the annual costs identified in Table 1A - Generation Income Statement. For the COSA, costs are assigned to the resource pools primarily by direct identification, related to the rate development requirements of the Northwest Power Act. Exceptions are net interest expenses and planned net revenues, which are first split between Federal hydro projects and the remainder of generation by the use of equivalent annual costs (defined below). The generation portions are then divided between Fish & Wildlife, Conservation and BPA generation programs based on average net investment. These allocations, in turn, form the basis for the association of net interest expenses and MRNR with the interbusiness unit embedded costs. The O&M and depreciation are direct identification for the interbusiness unit embedded costs. The Slice revenue requirement is derived from the generation revenue requirement with the exclusion of certain budget line items.

### 2.2 Annual Cost Components of COSA Resource Pools

FBS Operating Expenses

- Hydro: COE, Reclamation, and US Fish & Wildlife O&M, and depreciation; Colville settlement payment; PNCA headwater benefits.

- Fish and Wildlife: BPA F&W direct program O&M and amortization of F&W direct program capital investments.

- Remaining FBS items: Contractual costs associated with Trojan, CGS, WNP-1 and -3 (excluding WNP 3 investor owned utility (IOU) settlement costs); balancing (short-term) power purchases and potential system augmentation purchases.

New Resources Operating Expenses

- Contractual obligations associated with energy acquired under the long-term generating projects and renewable generation programs, including the renewables rate credit, but excluding billing credits.

Residential Exchange Operating Expenses

- IOU and COU Residential Exchange program implementation expenses (benefits are calculated in the rate development process).

Conservation Operating Expenses

- Operating expenses associated with PS's generation conservation programs
- PS conservation support.
- Amortization of BPA capital investments in Legacy conservation, ConAug and conservation acquisitions.
- Third party debt service in conservation programs backed by BPA.
- Conservation rate credit.
- Energy Efficiency's share of corporate expense.
- Billing Credits expense.

Other Generation Costs Operating Expenses

- BPA programs are expense programs, including Power Marketing and Business Support, Power Scheduling, PS System Operations, CSRS Pension expense, agency Administrative & Support Services, and the Northwest Planning and Conservation Council (NWPCC); depreciation associated with investment in capital equipment (office furniture & fixtures, communications equipment, data processing hardware and software) for PS and Corporate.

Transmission Costs

- TS transmission is estimated costs of BPA transmission service acquired when necessary for delivery of BPA wholesale power.

- Ancillary services are estimated annual costs of BPA Generation Integration transmission facilities (Note: while these are not specifically ancillary service product costs, this is the program under which this interbusiness unit expense currently is being reported).

- General Transfer Agreements are annual expenses associated with General Transfer Agreements for delivery of BPA wholesale power and non-BPA wheeling acquired for same.

Equivalent Annual Costs

Equivalent annual costs are used to prorate net interest expense and planned net revenues between Federal Hydro and the remainder of generation. They are calculated as levelized principal and interest payments (mortgage basis) using gross plant investment and projected additions. A weighted average interest rate is used for the historical plant and projected interest rates are used for additions. The prorating is based on the sum of all calculated proxy-payments for COE and Reclamation (Federal Hydro), and BPA plant, BPA fish and wildlife investment and all BPA conservation investments (all other generation). The generation portion is then allocated based on average net plant investment.

## 2.3 Interbusiness Unit Embedded Costs

Generation Inputs to Ancillary Services

Operating Reserves

All Federal Hydro Projects in the BPA Balancing Authority (excludes Boise, Minidoka-Palisades, Green Springs and Lost Creek)

- O&M: sum of generation O&M for each hydro project, including Colville payment (associated with Columbia Basin), less F&W related O&M at projects.

- Depreciation: depreciation expense associated with generation investments at each hydro project.

- Net Interest Expense/MRNR: suballocation from Hydro in the COSA Itemized Revenue Requirement table based on generation net plant investment from Federal hydro projects in the BPA balancing authority. MRNR is determined from the Revenue Requirement Income Statement as a ratio of MRNR to Planned Net Revenues, Total and is applied to the suballocation from Hydro.

- Fish & Wildlife O&M: sum of BPA direct program, US F&W Service (Lower Snake River Compensation Plan) F&W portion of O&M at individual COE projects and 1/2 of the Planning Council budget

- Amortization/Depreciation: annual write-down of F&W investments from BPA direct program, Lower Snake River Compensation Plan (LSRCP), and CRFM.

- Net Interest Expense/MRNR: suballocation from COSA table Hydro line based on net plant investment from LSRCP and CRFM plus amounts in COSA table Fish & Wildlife line. . MRNR is determined from the Revenue Requirement Income Statement as a ratio of MRNR to Planned Net Revenues, Total and is applied to the suballocation from Hydro and to the F&W COSA allocations.

- A&G Expense: generation revenue requirement O&M for Power Marketing, Power Scheduling, Generation Oversight, (one-half of) Planning Council budget, and BPA Administrative and Support Services.

- Revenue Credits: offsetting revenues associated with funding for BPA F&W program (4h10C credit associated with Direct Program expense and capital expenditure) and annual Colville settlement payments (Colville payment Treasury credit).

Regulation

- All components identical to operating reserves except that data associated with the top 10 COE/Reclamation hydro plants (Columbia Basin, Bonneville, John Day, The Dalles, Chief Joseph, Ice Harbor, Lower Granite, Lower Monumental, Little Goose, and

McNary) is used instead of all COE/Reclamation projects in the BPA balancing authority.

Synchronous Condensing

Synchronous Condensing:  Capital-related Annual Costs are from identified investment in synchronous condensers:  depreciation expense is calculated directly; suballocation of interest and MRNR from Federal Hydro in COSA, based on ratio of synchronous condenser net investment to total COE/Reclamataion net plant investment.  MRNR is determined from the Revenue Requirement Income Statement as a ratio of MRNR to Planned Net Revenues, Total and is applied to the suballocation from Hydro.

COE And Reclamation Transmission

- O&M: sum of transmission O&M for each project with transmission facilities, as identified in Chapter 3, Functionalization of COE and Reclamation O&M.

- Depreciation: depreciation expense associated with transmission investments at each project, as identified in Chapter 4.

- Net Interest Expense/MRNR: suballocation from Hydro in the COSA Itemized Revenue Requirement table based on transmission net plant investment, as identified in Chapter 4. MRNR is determined from the Revenue Requirement Income Statement as a ratio of MRNR to Planned Net Revenues, Total and is applied to the suballocation from Hydro.

**Table 2A**

## Generation Revenue Requirements by Resource Pool
## PROGRAM CASE
## ($000s)

| FY 2010 | INVEST BASE | NET INT | NET REVS | OPER EXP | TOTAL (B+C+D) |
|---|---|---|---|---|---|
| 1. GENERATION COSTS | | | | | |
| | | | | | |
| 2. FEDERAL BASE SYSTEM | | | | | |
| 3. HYDRO | | 134,911 | 43,682 | 432,374 | 610,967 |
| 4. FISH AND WILDLIFE | 204,098 | 17,339 | 5,614 | 248,887 | 271,840 |
| 5. TROJAN | | | | 2,200 | 2,200 |
| 6. WNP #1 | | | | 166,431 | 166,431 |
| 7. CGS | | | | 493,547 | 493,547 |
| 8. WNP #3 | | | | 144,892 | 144,892 |
| 9. SYSTEM AUGMENTATION | | | | 180,599 | 180,599 |
| 10. BALANCING POWER PURCHASES | | | | 87,631 | 87,631 |
| 11. TOTAL FEDERAL BASE SYSTEM | 204,098 | 152,250 | 49,296 | 1,756,561 | 1,958,107 |
| | | | | | |
| 12. NEW RESOURCES | | | | | |
| 13. IDAHO FALLS | | | | 4,789 | 4,789 |
| 14. COWLITZ FALLS | | | | 14,857 | 14,857 |
| 15. OTHER LONG-TERM POWER PURCHASES | | | | 62,781 | 62,781 |
| 16. TOTAL NEW RESOURCES | | | | 82,427 | 82,427 |
| | | | | | |
| 17. RESIDENTIAL EXCHANGE | | | | 2,421 | 2,421 |
| | | | | | |
| 18. CONSERVATION | 156,758 | 13,318 | 4,312 | 169,147 | 186,777 |
| | | | | | |
| 19. OTHER GENERATION COSTS | | | | | |
| 20. BPA PROGRAMS | 18,254 | 1,551 | 502 | 138,219 | 140,272 |
| 21. WNP #3 PLANT | | | | | 0 |
| 22. TOTAL OTHER GENERATION COSTS | 18,254 | 1,551 | 502 | 138,219 | 140,272 |
| | | | | | |
| 23. TOTAL GENERATION COSTS | 379,110 | 167,119 | 54,110 | 2,148,776 | 2,370,005 |
| | | | | | |
| 24. TRANSMISSION COSTS | | | | | |
| 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 126,027 | 126,027 |
| 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 27. GENERAL TRANSFER AGREEMENTS | | | | 50,690 | 50,690 |
| 28. TOTAL TRANSMISSION COSTS | | | | 177,717 | 177,717 |
| | | | | | |
| 29. TOTAL PBL REVENUE REQUIREMENT | | 167,119 | 54,110 | 2,326,493 | 2,547,722 |
| 30. BPA TRANSMISSION REVENUE REQUIREMENT | | 130,625 | 77,936 | 602,483 | 811,044 |
| (Net of Line 25) | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2A** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **PROGRAM CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 49 | | | | | | |
| 50 | | | | | | |
| 51 | | | | | | |
| 52 | FY 2011 | | | | | |
| 53 | | A | B | C | D | E |
| 54 | | INVEST | NET | NET | OPER | TOTAL |
| 55 | | BASE | INT | REVS | EXP | (B+C+D) |
| 56 | 1. GENERATION COSTS | | | | | |
| 57 | | | | | | |
| 58 | 2. FEDERAL BASE SYSTEM | | | | | |
| 59 | 3. HYDRO | | 138,674 | 37,213 | 447,358 | 623,245 |
| 60 | 4. FISH AND WILDLIFE | 243,903 | 21,174 | 5,682 | 272,719 | 299,575 |
| 61 | 5. TROJAN | | | | 2,300 | 2,300 |
| 62 | 6. WNP #1 | | | | 167,977 | 167,977 |
| 63 | 7. CGS | | | | 551,051 | 551,051 |
| 64 | 8. WNP #3 | | | | 169,093 | 169,093 |
| 65 | 9. SYSTEM AUGMENTATION | | | | 272,917 | 272,917 |
| 66 | 10. BALANCING POWER PURCHASES | | | | 72,107 | 72,107 |
| 67 | 11. TOTAL FEDERAL BASE SYSTEM | 243,903 | 159,848 | 42,895 | 1,955,523 | 2,158,266 |
| 68 | | | | | | |
| 69 | 12. NEW RESOURCES | | | | | |
| 70 | 13. IDAHO FALLS | | | | 4,789 | 4,789 |
| 71 | 14. COWLITZ FALLS | | | | 14,802 | 14,802 |
| 72 | 15. OTHER LONG-TERM POWER PURCHASES | | | | 62,105 | 62,105 |
| 73 | 16. TOTAL NEW RESOURCES | | | | 81,696 | 81,696 |
| 74 | | | | | | |
| 75 | 17. RESIDENTIAL EXCHANGE | | | | 1,440 | 1,440 |
| 76 | | | | | | |
| 77 | 18. CONSERVATION | 141,377 | 12,274 | 3,294 | 176,696 | 192,264 |
| 78 | | | | | | |
| 79 | 19. OTHER GENERATION COSTS | | | | | |
| 80 | 20. BPA PROGRAMS | 13,577 | 1,179 | 316 | 138,617 | 140,112 |
| 81 | 21. WNP #3 PLANT | | | | | 0 |
| 82 | 22. TOTAL OTHER GENERATION COSTS | 13577 | 1,179 | 316 | 138,617 | 140,112 |
| 83 | | | | | | |
| 84 | 23. TOTAL GENERATION COSTS | 398,857 | 173,301 | 46,505 | 2,353,971 | 2,573,778 |
| 85 | | | | | | |
| 86 | 24. TRANSMISSION COSTS | | | | | |
| 87 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 124,251 | 124,251 |
| 88 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 89 | 27. GENERAL TRANSFER AGREEMENTS | | | | 51,340 | 51,340 |
| 90 | 28. TOTAL TRANSMISSION COSTS | | | | 176,591 | 176,591 |
| 91 | | | | | | |
| 92 | 29. TOTAL PBL REVENUE REQUIREMENT | | 173,301 | 46,505 | 2,530,562 | 2,750,369 |
| 93 | 30. BPA TRANSMISSION REVENUE REQUIREMENT | | 145,757 | 73,507 | 644,141 | 863,405 |
| 94 | (Net of Line 25) | | | | | |
| 95 | | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2A** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **PROGRAM CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 96 | | | | | | |
| 97 | | | | | | |
| 98 | FY 2012 | | | | | |
| 99 | | A | B | C | D | E |
| 100 | | INVEST | NET | NET | OPER | TOTAL |
| 101 | | BASE | INT | REVS | EXP | (B+C+D) |
| 102 | 1. GENERATION COSTS | | | | | |
| 103 | | | | | | |
| 104 | 2. FEDERAL BASE SYSTEM | | | | | |
| 105 | 3. HYDRO | | 153,205 | 0 | 469,861 | 623,066 |
| 106 | 4. FISH AND WILDLIFE | 271,798 | 22,569 | 0 | 294,600 | 317,169 |
| 107 | 5. TROJAN | | | | 2,300 | 2,300 |
| 108 | 6. WNP #1 | | | | 192,951 | 192,951 |
| 109 | 7. CGS | | | | 628,707 | 628,707 |
| 110 | 8. WNP #3 | | | | 162,208 | 162,208 |
| 111 | 9. SYSTEM AUGMENTATION | | | | 211,656 | 211,656 |
| 112 | 10. BALANCING POWER PURCHASES | | | | 85,220 | 85,220 |
| 113 | 11. TOTAL FEDERAL BASE SYSTEM | 271,798 | 175,774 | 0 | 2,047,502 | 2,223,276 |
| 114 | | | | | | |
| 115 | 12. NEW RESOURCES | | | | | |
| 116 | 13. IDAHO FALLS | | | | 4,967 | 4,967 |
| 117 | 14. COWLITZ FALLS | | | | 14,967 | 14,967 |
| 118 | 15. OTHER LONG-TERM POWER PURCHASES | | | | 92,988 | 92,988 |
| 119 | 16. TOTAL NEW RESOURCES | | | | 112,922 | 112,922 |
| 120 | | | | | | |
| 121 | 17. RESIDENTIAL EXCHANGE | | | | 2,564 | 2,564 |
| 122 | | | | | | |
| 123 | 18. CONSERVATION | 134,689 | 11,184 | 0 | 174,113 | 185,297 |
| 124 | | | | | | |
| 125 | 19. OTHER GENERATION COSTS | | | | | |
| 126 | 20. BPA PROGRAMS | 11,525 | 957 | 0 | 150,254 | 151,211 |
| 127 | 21. WNP #3 PLANT | | | | | 0 |
| 128 | 22. TOTAL OTHER GENERATION COSTS | 11,525 | 957 | 0 | 150,254 | 151,211 |
| 129 | | | | | | |
| 130 | 23. TOTAL GENERATION COSTS | 418,012 | 187,915 | 0 | 2,487,355 | 2,675,270 |
| 131 | | | | | | |
| 132 | 24. TRANSMISSION COSTS | | | | | |
| 133 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 121,412 | 121,412 |
| 134 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 135 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,428 | 52,428 |
| 136 | 28. TOTAL TRANSMISSION COSTS | | | | 174,840 | 174,840 |
| 137 | | | | | | |
| 138 | 29. TOTAL PBL REVENUE REQUIREMENT | | 187,915 | 0 | 2,662,195 | 2,850,110 |
| 139 | | | | | | |
| 140 | | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2A** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **PROGRAM CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 141 | | | | | | |
| 142 | | | | | | |
| 143 | | | | | | |
| 144 | FY 2013 | | | | | |
| 145 | | A | B | C | D | E |
| 146 | | INVEST | NET | NET | OPER | TOTAL |
| 147 | | BASE | INT | REVS | EXP | (B+C+D) |
| 148 | 1. GENERATION COSTS | | | | | |
| 149 | | | | | | |
| 150 | 2. FEDERAL BASE SYSTEM | | | | | |
| 151 | 3. HYDRO | | 169,109 | 22,096 | 484,659 | 675,865 |
| 152 | 4. FISH AND WILDLIFE | 293,187 | 25,324 | 3,309 | 302,591 | 331,224 |
| 153 | 5. TROJAN | | | | 2,400 | 2,400 |
| 154 | 6. WNP #1 | | | | 292,968 | 292,968 |
| 155 | 7. CGS | | | | 549,085 | 549,085 |
| 156 | 8. WNP #3 | | | | 178,719 | 178,719 |
| 157 | 9. SYSTEM AUGMENTATION | | | | 310,848 | 310,848 |
| 158 | 10. BALANCING POWER PURCHASES | | | | 77,313 | 77,313 |
| 159 | 11. TOTAL FEDERAL BASE SYSTEM | 293,187 | 194,433 | 25,405 | 2,198,584 | 2,418,422 |
| 160 | | | | | | |
| 161 | 12. NEW RESOURCES | | | | | |
| 162 | 13. IDAHO FALLS | | | | 5,427 | 5,427 |
| 163 | 14. COWLITZ FALLS | | | | 15,071 | 15,071 |
| 164 | 15. OTHER LONG-TERM POWER PURCHASES | | | | 94,480 | 94,480 |
| 165 | 16. TOTAL NEW RESOURCES | | | | 114,978 | 114,978 |
| 166 | | | | | | |
| 167 | 17. RESIDENTIAL EXCHANGE | | | | 1,583 | 1,583 |
| 168 | | | | | | |
| 169 | 18. CONSERVATION | 133,551 | 11,536 | 1,507 | 179,914 | 192,957 |
| 170 | | | | | | |
| 171 | 19. OTHER GENERATION COSTS | | | | | |
| 172 | 20. BPA PROGRAMS | 11,049 | 954 | 125 | 151,035 | 152,114 |
| 173 | 21. WNP #3 PLANT | | | | | |
| 174 | 22. TOTAL OTHER GENERATION COSTS | 11,049 | 954 | 125 | 151,035 | 152,114 |
| 175 | | | | | | |
| 176 | 23. TOTAL GENERATION COSTS | 437,787 | 206,923 | 27,037 | 2,646,094 | 2,880,054 |
| 177 | | | | | | |
| 178 | 24. TRANSMISSION COSTS | | | | | |
| 179 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 120,862 | 120,862 |
| 180 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 181 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,437 | 52,437 |
| 182 | 28. TOTAL TRANSMISSION COSTS | | | | 174,299 | 174,299 |
| 183 | | | | | | |
| 184 | 29. TOTAL PBL REVENUE REQUIREMENT | | 206,923 | 27,037 | 2,820,393 | 3,054,353 |
| 185 | | | | | | |
| 186 | | | | | | |

**Table 2A**

**Generation Revenue Requirements by Resource Pool**
**PROGRAM CASE**
**($000s)**

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 190 | FY 2014 | | | | | |
| 191 | | A | B | C | D | E |
| 192 | | INVEST | NET | NET | OPER | TOTAL |
| 193 | | BASE | INT | REVS | EXP | (B+C+D) |
| 194 | 1. GENERATION COSTS | | | | | |
| 195 | | | | | | |
| 196 | 2. FEDERAL BASE SYSTEM | | | | | |
| 197 | 3. HYDRO | | 186,820 | 0 | 499,708 | 686,528 |
| 198 | 4. FISH AND WILDLIFE | 312,758 | 29,153 | 0 | 295,673 | 324,826 |
| 199 | 5. TROJAN | | | | 2,500 | 2,500 |
| 200 | 6. WNP #1 | | | | 292,140 | 292,140 |
| 201 | 7. CGS | | | | 515,143 | 515,143 |
| 202 | 8. WNP #3 | | | | 175,460 | 175,460 |
| 203 | 9. SYSTEM AUGMENTATION | | | | 308,232 | 308,232 |
| 204 | 10. BALANCING POWER PURCHASES | | | | 80,171 | 80,171 |
| 205 | 11. TOTAL FEDERAL BASE SYSTEM | 312,758 | 215,973 | 0 | 2,169,027 | 2,385,000 |
| 206 | | | | | | |
| 207 | 12. NEW RESOURCES | | | | | |
| 208 | 13. IDAHO FALLS | | | | 5,580 | 5,580 |
| 209 | 14. COWLITZ FALLS | | | | 15,155 | 15,155 |
| 210 | 15. OTHER LONG-TERM POWER PURCHASES | | | | 95,489 | 95,489 |
| 211 | 16. TOTAL NEW RESOURCES | | | | 116,224 | 116,224 |
| 212 | | | | | | |
| 213 | 17. RESIDENTIAL EXCHANGE | | | | 2,604 | 2,604 |
| 214 | | | | | | |
| 215 | 18. CONSERVATION | 128,359 | 12,506 | 0 | 183,426 | 195,932 |
| 216 | | | | | | |
| 217 | 19. OTHER GENERATION COSTS | | | | | |
| 218 | 20. BPA PROGRAMS | 10,189 | 993 | 0 | 156,853 | 157,846 |
| 219 | 21. WNP #3 PLANT | | | | | |
| 220 | 22. TOTAL OTHER GENERATION COSTS | 10,189 | 993 | 0 | 156,853 | 157,846 |
| 221 | | | | | | |
| 222 | 23. TOTAL GENERATION COSTS | 451,306 | 229,472 | 0 | 2,628,133 | 2,857,605 |
| 223 | | | | | | |
| 224 | 24. TRANSMISSION COSTS | | | | | |
| 225 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 123,519 | 123,519 |
| 226 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 227 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,446 | 52,446 |
| 228 | 28. TOTAL TRANSMISSION COSTS | | | | 176,965 | 176,965 |
| 229 | | | | | | |
| 230 | 29. TOTAL PBL REVENUE REQUIREMENT | | 229,472 | 0 | 2,805,098 | 3,034,570 |
| 231 | | | | | | |
| 232 | | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2A** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **PROGRAM CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 233 | | | | | | |
| 234 | | | | | | |
| 235 | | | | | | |
| 236 | FY 2015 | | | | | |
| 237 | | A | B | C | D | E |
| 238 | | INVEST | NET | NET | OPER | TOTAL |
| 239 | | BASE | INT | REVS | EXP | (B+C+D) |
| 240 | 1. GENERATION COSTS | | | | | |
| 241 | | | | | | |
| 242 | 2. FEDERAL BASE SYSTEM | | | | | |
| 243 | 3. HYDRO | | 199,050 | 0 | 513,971 | 713,021 |
| 244 | 4. FISH AND WILDLIFE | 330,116 | 32,771 | 0 | 304,864 | 337,635 |
| 245 | 5. TROJAN | | | | 2,600 | 2,600 |
| 246 | 6. WNP #1 | | | | 220,020 | 220,020 |
| 247 | 7. CGS | | | | 612,178 | 612,178 |
| 248 | 8. WNP #3 | | | | 193,459 | 193,459 |
| 249 | 9. SYSTEM AUGMENTATION | | | | 415,263 | 415,263 |
| 250 | 10. BALANCING POWER PURCHASES | | | | 44,484 | 44,484 |
| 251 | 11. TOTAL FEDERAL BASE SYSTEM | 330,116 | 231,821 | 0 | 2,306,838 | 2,538,660 |
| 252 | | | | | | |
| 253 | 12. NEW RESOURCES | | | | | |
| 254 | 13. IDAHO FALLS | | | | 5,887 | 5,887 |
| 255 | 14. COWLITZ FALLS | | | | 15,270 | 15,270 |
| 256 | 15. OTHER LONG-TERM POWER PURCHASES | | | | 95,767 | 95,767 |
| 257 | 16. TOTAL NEW RESOURCES | | | | 116,924 | 116,924 |
| 258 | | | | | | |
| 259 | 17. RESIDENTIAL EXCHANGE | | | | 1,700 | 1,700 |
| 260 | | | | | | |
| 261 | 18. CONSERVATION | 121,609 | 12,911 | 0 | 180,030 | 192,941 |
| 262 | | | | | | |
| 263 | 19. OTHER GENERATION COSTS | | | | | |
| 264 | 20. BPA PROGRAMS | 7,498 | 796 | 0 | 162,582 | 163,378 |
| 265 | 21. WNP #3 PLANT | | | | | |
| 266 | 22. TOTAL OTHER GENERATION COSTS | 7,498 | 796 | 0 | 162,582 | 163,378 |
| 267 | | | | | | |
| 268 | 23. TOTAL GENERATION COSTS | 459,223 | 245,528 | 0 | 2,768,074 | 3,013,603 |
| 269 | | | | | | |
| 270 | 24. TRANSMISSION COSTS | | | | | |
| 271 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 122,179 | 122,179 |
| 272 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 273 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,446 | 52,446 |
| 274 | 28. TOTAL TRANSMISSION COSTS | | | | 175,625 | 175,625 |
| 275 | | | | | | |
| 276 | 29. TOTAL PBL REVENUE REQUIREMENT | | 245,528 | 0 | 2,943,699 | 3,189,228 |
| 277 | | | | | | |
| 278 | | | | | | |

## Table 2B

## Allocation of Net Interest and Planned Net Revenues for COSA
## ($000s)

| | | Hydro | All Other | Total Generation |
|---|---|---|---|---|
| | **FY 2010** | | | |
| 1 | Equivalent Annual Costs | 549,291 | 131,135 | 680,425 |
| 2 | Percent | 81% | 19% | 100% |
| 3 | Net Interest Expense | 134,911 | 32,208 | 167,119 |
| 4 | Planned Net Revenues | 43,682 | 10,428 | 54,110 |
| | **FY 2011** | **Hydro** | **All Other** | **Total Generation** |
| 5 | Equivalent Annual Costs | 556,834 | 139,044 | 695,877 |
| 6 | Percent | 80% | 20% | 100% |
| 7 | Net Interest Expense | 138,674 | 34,627 | 173,301 |
| 8 | Planned Net Revenues | 37,213 | 9,292 | 46,505 |
| | **FY 2012** | **Hydro** | **All Other** | **Total Generation** |
| 9 | Equivalent Annual Costs | 574,212 | 130,092 | 704,304 |
| 10 | Percent | 82% | 18% | 100% |
| 11 | Net Interest Expense | 153,205 | 34,710 | 187,915 |
| 12 | Planned Net Revenues | - | - | - |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | | **Table 2B** | | |
| 2 | | | | | | |
| 3 | | | | **Allocation of Net Interest and Planned Net Revenues for COSA** | | |
| 4 | | | | **($000s)** | | |
| 34 | | | | | | **Total** |
| 35 | | **FY 2013** | | **Hydro** | **All Other** | **Generation** |
| 36 | 13 | Equivalent Annual Costs | | 610,015 | 136,405 | 746,420 |
| 37 | 14 | | Percent | 82% | 18% | 100% |
| 38 | | | | | | |
| 39 | 15 | Net Interest Expense | | 169,109 | 37,814 | 206,923 |
| 40 | | | | | | |
| 41 | 16 | Planned Net Revenues | | 22,096 | 4,941 | 27,037 |
| 42 | | | | | | |
| 43 | | | | | | **Total** |
| 44 | | **FY 2014** | | **Hydro** | **All Other** | **Generation** |
| 45 | 17 | Equivalent Annual Costs | | 626,078 | 142,935 | 769,013 |
| 46 | 18 | | Percent | 81% | 19% | 100% |
| 47 | | | | | | |
| 48 | 19 | Net Interest Expense | | 186,820 | 42,652 | 229,472 |
| 49 | | | | | | |
| 50 | 20 | Planned Net Revenues | | - | - | - |
| 51 | | | | | | |
| 52 | | | | | | **Total** |
| 53 | | **FY 2015** | | **Hydro** | **All Other** | **Generation** |
| 54 | 21 | Equivalent Annual Costs | | 630,678 | 147,264 | 777,941 |
| 55 | 22 | | Percent | 81% | 19% | 100% |
| 56 | | | | | | |
| 57 | 23 | Net Interest Expense | | 199,050 | 46,478 | 245,528 |
| 58 | | | | | | |
| 59 | 24 | Planned Net Revenues | | - | - | - |
| 60 | | | | | | |

**Table 2C**

**Equivalent Annual Costs**
**($000s)**

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | | | | **COMP** | **WT AV** | **2010** | **COMP** | **WT AV** | **2011** | **COMP** | **WT AV** | **2012** |
| 3 | | | **AVG** | **PLANT** | **INT** | **EQ ANN** | **PLANT** | **INT** | **EQ ANN** | **PLANT** | **INT** | **EQ ANN** |
| 4 | | | **LIFE** | **9/30/2010** | **RATE** | **COSTS** | **9/30/2011** | **RATE** | **COSTS** | **9/30/2012** | **RATE** | **COSTS** |
| 5 | 1 | Corps of Engineers/Bureau of Reclamation | 50 | 8,196,709 | 6.40% | $549,291 | 8,342,821 | 6.37% | $556,834 | 8,626,391 | 6.35% | $574,212 |
| 6 | | | | | | | | | | | | |
| 7 | 2 | BPA F&W | 15 | 373,327 | 6.00% | $38,439 | 407,281 | 6.06% | $42,099 | 429,217 | 6.11% | $44,512 |
| 8 | 3 | PBL General Plant | 6 | 101,184 | 6.46% | $22,058 | 114,064 | 6.52% | $20,728 | 129,594 | 6.57% | $21,446 |
| 9 | 4 | CONSERVATION | 13 | 652,954 | 0 | 70,637 | 646,840 | 0 | 76,216 | 526,841 | 0 | 64,134 |
| 10 | 5 | Sub-Total | | | | 131,135 | | | 139,044 | | | 130,092 |
| 11 | | | | | | | | | | | | |
| 12 | | | | **INV. BASE** | | | **INV. BASE** | | | **INV. BASE** | | |
| 13 | | | **AVG** | **AS OF** | **ANNUAL** | **AVG** | **AS OF** | **ANNUAL** | **AVG** | **AS OF** | **ANNUAL** | **AVG** |
| 14 | | | **LIFE** | **9/30/2010** | **DEPR/AMORT** | **LIFE** | **9/30/2011** | **DEPR/AMORT** | **LIFE** | **9/30/2012** | **DEPR/AMORT** | **LIFE** |
| 15 | 6 | OFFICE FURNITURE & FIXTURES | | | | | | | | | | |
| 16 | 7 | DATA PROCESSING EQUIPMENT | | | | | | | | | | |
| 17 | 8 | DATA PROCESSING SOFTWARE | | | | | | | | | | |
| 18 | 9 | TOTAL GENERAL PLANT - PBL | 6 | 101,184 | 18,023 | 7 | 114,064 | 16,212 | 8 | 129,594 | 16,302 | 9 |
| 19 | | CONSERVATION | | | | | | | | | | |
| 20 | 10 | LEGACY | | | | | | | | | | |
| 21 | 11 | CONAUG | | | | | | | | | | |
| 22 | 12 | CONSERVATION ACQUISITION | | | | | | | | | | |
| 23 | 13 | TOTAL CONSERVATION | 13 | 652,954 | 48,885 | 12 | 646,840 | 54,275 | 11 | 526,841 | 45,901 | 9 |

**Table 2C**

**Equivalent Annual Costs**
**($000s)**

| | A | B | M | N | O | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | **COMP** | **WT AV** | **2013** | **COMP** | **WT AV** | **2014** | **COMP** | **WT AV** | **2015** |
| 3 | | | **PLANT** | **INT** | **EQ ANN** | **PLANT** | **INT** | **EQ ANN** | **PLANT** | **INT** | **EQ ANN** |
| 4 | | | **9/30/2013** | **RATE** | **COSTS** | **9/30/2014** | **RATE** | **COSTS** | **9/30/2015** | **RATE** | **COSTS** |
| 5 | 1 | Corps of Engineers/Bureau of Reclamation | 9,176,623 | 6.34% | $610,015 | 9,418,269 | 6.34% | $626,078 | 9,487,460 | 6.34% | $630,678 |
| 6 | | | | | | | | | | | |
| 7 | 2 | BPA F&W | 457,222 | 6.15% | $47,539 | 492,474 | 6.15% | $51,205 | 528,576 | 6.15% | $54,958 |
| 8 | 3 | PBL General Plant | 145,184 | 6.60% | $21,542 | 160,984 | 6.60% | $23,742 | 176,084 | 6.60% | $25,943 |
| 9 | 4 | CONSERVATION | 471,185 | 0 | 67,324 | 394,592 | 0 | 67,989 | 349,364 | 0 | 66,362 |
| 10 | 5 | Sub-Total | | | 136,405 | | | 142,935 | | | 147,264 |
| 11 | | | | | | | | | | | |
| 12 | | | **INV. BASE** | | | **INV. BASE** | | | **INV. BASE** | | |
| 13 | | | **AS OF** | **ANNUAL** | **AVG** | **AS OF** | **ANNUAL** | **AVG** | **AS OF** | **ANNUAL** | |
| 14 | | | **9/30/2013** | **DEPR/AMORT** | **LIFE** | **9/30/2014** | **DEPR/AMORT** | **LIFE** | **9/30/2015** | **DEPR/AMORT** | |
| 15 | 6 | OFFICE FURNITURE & FIXTURES | | | | | | | | | |
| 16 | 7 | DATA PROCESSING EQUIPMENT | | | | | | | | | |
| 17 | 8 | DATA PROCESSING SOFTWARE | | | | | | | | | |
| 18 | 9 | TOTAL GENERAL PLANT - PBL | 145,184 | 15,769 | 9 | 160,984 | 17,341 | 9 | 176,084 | 18,942 | |
| 19 | | CONSERVATION | | | | | | | | | |
| 20 | 10 | LEGACY | | | | | | | | | |
| 21 | 11 | CONAUG | | | | | | | | | |
| 22 | 12 | CONSERVATION ACQUISITION | | | | | | | | | |
| 23 | 13 | TOTAL CONSERVATION | 471,185 | 50,774 | 7 | 394,592 | 54,010 | 6 | 349,364 | 53,889 | |

**Table 2D**

**Generation Revenue Requirements by Resource Pool**
**7B2 CASE**
**($000s)**

**FY 2010**

| | INVEST BASE | NET INT | NET REVS | OPER EXP | TOTAL (B+C+D) |
|---|---|---|---|---|---|
| 1. GENERATION COSTS | | | | | |
| | | | | | |
| 2. FEDERAL BASE SYSTEM | | | | | |
| 3. HYDRO | | 139,887 | 88,195 | 432,374 | 660,455 |
| 4. FISH AND WILDLIFE | 204,098 | 14,142 | 8,916 | 248,887 | 271,945 |
| 5. TROJAN | | | | 2,200 | 2,200 |
| 6. WNP #1 | | | | 166,431 | 166,431 |
| 7. CGS | | | | 493,547 | 493,547 |
| 8. WNP #3 | | | | 144,892 | 144,892 |
| 9. SYSTEM AUGMENTATION | | | | 180,599 | 180,599 |
| 10. BALANCING POWER PURCHASES | | | | 87,631 | 87,631 |
| 11. TOTAL FEDERAL BASE SYSTEM | 204,098 | 154,029 | 97,111 | 1,756,561 | 2,007,700 |
| | | | | | |
| 12. NEW RESOURCES | | | | | |
| 13. IDAHO FALLS | | | | | |
| 14. COWLITZ FALLS | | | | | |
| 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 16. TOTAL NEW RESOURCES | | | | | |
| | | | | | |
| 17. RESIDENTIAL EXCHANGE | | | | | |
| | | | | | |
| 18. CONSERVATION | | | | | |
| | | | | | |
| 19. OTHER GENERATION COSTS | | | | | |
| 20. BPA PROGRAMS | 18,254 | 1,265 | 797 | 138,219 | 140,281 |
| 21. WNP #3 PLANT | | | | | 0 |
| 22. TOTAL OTHER GENERATION COSTS | 18,254 | 1,265 | 797 | 138,219 | 140,281 |
| | | | | | |
| 23. TOTAL GENERATION COSTS | 222,352 | 155,294 | 97,908 | 1,894,780 | 2,147,981 |
| | | | | | |
| 24. TRANSMISSION COSTS | | | | | |
| 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 126,027 | 126,027 |
| 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 27. GENERAL TRANSFER AGREEMENTS | | | | 50,690 | 50,690 |
| 28. TOTAL TRANSMISSION COSTS | | | | 177,717 | 177,717 |
| | | | | | |
| 29. TOTAL PBL REVENUE REQUIREMENT | | 155,294 | 97,908 | 2,072,497 | 2,325,698 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2D** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **7B2 CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 48 | | | | | | |
| 49 | | | | | | |
| 50 | | | | | | |
| 51 | | | | | | |
| 52 | | | | | | |
| 53 | **FY 2011** | | | | | |
| 54 | | | | | | |
| 55 | | **INVEST** | **NET** | **NET** | **OPER** | **TOTAL** |
| 56 | | **BASE** | **INT** | **REVS** | **EXP** | **(B+C+D)** |
| 57 | 1. GENERATION COSTS | | | | | |
| 58 | | | | | | |
| 59 | 2. FEDERAL BASE SYSTEM | | | | | |
| 60 | 3. HYDRO | | 144,691 | 86,712 | 447,358 | 678,761 |
| 61 | 4. FISH AND WILDLIFE | 243,903 | 15,464 | 9,268 | 272,719 | 297,451 |
| 62 | 5. TROJAN | | | | 2,300 | 2,300 |
| 63 | 6. WNP #1 | | | | 167,977 | 167,977 |
| 64 | 7. CGS | | | | 551,051 | 551,051 |
| 65 | 8. WNP #3 | | | | 169,093 | 169,093 |
| 66 | 9. SYSTEM AUGMENTATION | | | | 272,917 | 272,917 |
| 67 | 10. BALANCING POWER PURCHASES | | | | 72,107 | 72,107 |
| 68 | 11. TOTAL FEDERAL BASE SYSTEM | 243,903 | 160,155 | 95,980 | 1,955,523 | 2,211,658 |
| 69 | | | | | | |
| 70 | 12. NEW RESOURCES | | | | | |
| 71 | 13. IDAHO FALLS | | | | | |
| 72 | 14. COWLITZ FALLS | | | | | |
| 73 | 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 74 | 16. TOTAL NEW RESOURCES | | | | | |
| 75 | | | | | | |
| 76 | 17. RESIDENTIAL EXCHANGE | | | | | |
| 77 | | | | | | |
| 78 | 18. CONSERVATION | | | | | |
| 79 | | | | | | |
| 80 | 19. OTHER GENERATION COSTS | | | | | |
| 81 | 20. BPA PROGRAMS | 13,577 | 861 | 516 | 138,617 | 139,994 |
| 82 | 21. WNP #3 PLANT | | | | | 0 |
| 83 | 22. TOTAL OTHER GENERATION COSTS | 13577 | 861 | 516 | 138,617 | 139,994 |
| 84 | | | | | | |
| 85 | 23. TOTAL GENERATION COSTS | 257,480 | 161,016 | 96,496 | 2,094,140 | 2,351,652 |
| 86 | | | | | | |
| 87 | 24. TRANSMISSION COSTS | | | | | |
| 88 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 124,251 | 124,251 |
| 89 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 90 | 27. GENERAL TRANSFER AGREEMENTS | | | | 51,340 | 51,340 |
| 91 | 28. TOTAL TRANSMISSION COSTS | | | | 176,591 | 176,591 |
| 92 | | | | | | |
| 93 | 29. TOTAL PBL REVENUE REQUIREMENT | | 161,016 | 96,496 | 2,270,731 | 2,528,243 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2D** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **7B2 CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 94 | | | | | | |
| 95 | | | | | | |
| 96 | | | | | | |
| 97 | | | | | | |
| 98 | | | | | | |
| 99 | **FY 2012** | | | | | |
| 100 | | | | | | |
| 101 | | **INVEST** | **NET** | **NET** | **OPER** | **TOTAL** |
| 102 | | **BASE** | **INT** | **REVS** | **EXP** | **(B+C+D)** |
| 103 | 1. GENERATION COSTS | | | | | |
| 104 | | | | | | |
| 105 | 2. FEDERAL BASE SYSTEM | | | | | |
| 106 | 3. HYDRO | | 156,662 | 0 | 469,861 | 626,524 |
| 107 | 4. FISH AND WILDLIFE | 271,798 | 17,263 | 0 | 294,600 | 311,863 |
| 108 | 5. TROJAN | | | | 2,300 | 2,300 |
| 109 | 6. WNP #1 | | | | 192,951 | 192,951 |
| 110 | 7. CGS | | | | 628,707 | 628,707 |
| 111 | 8. WNP #3 | | | | 162,208 | 162,208 |
| 112 | 9. SYSTEM AUGMENTATION | | | | 211,656 | 211,656 |
| 113 | 10. BALANCING POWER PURCHASES | | | | 85,220 | 85,220 |
| 114 | 11. TOTAL FEDERAL BASE SYSTEM | 271,798 | 173,925 | 0 | 2,047,502 | 2,221,427 |
| 115 | | | | | | |
| 116 | 12. NEW RESOURCES | | | | | |
| 117 | 13. IDAHO FALLS | | | | | |
| 118 | 14. COWLITZ FALLS | | | | | |
| 119 | 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 120 | 16. TOTAL NEW RESOURCES | | | | | |
| 121 | | | | | | |
| 122 | 17. RESIDENTIAL EXCHANGE | | | | | |
| 123 | | | | | | |
| 124 | 18. CONSERVATION | | | | | |
| 125 | | | | | | |
| 126 | 19. OTHER GENERATION COSTS | | | | | |
| 127 | 20. BPA PROGRAMS | 11,525 | 732 | 0 | 150,254 | 150,986 |
| 128 | 21. WNP #3 PLANT | | | | | 0 |
| 129 | 22. TOTAL OTHER GENERATION COSTS | 11,525 | 732 | 0 | 150,254 | 150,986 |
| 130 | | | | | | |
| 131 | 23. TOTAL GENERATION COSTS | 283,323 | 174,657 | 0 | 2,197,756 | 2,372,413 |
| 132 | | | | | | |
| 133 | 24. TRANSMISSION COSTS | | | | | |
| 134 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 121,412 | 121,412 |
| 135 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 136 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,428 | 52,428 |
| 137 | 28. TOTAL TRANSMISSION COSTS | | | | 174,840 | 174,840 |
| 138 | | | | | | |
| 139 | 29. TOTAL PBL REVENUE REQUIREMENT | | 174,657 | 0 | 2,372,596 | 2,547,253 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2D** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **7B2 CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 140 | | | | | | |
| 141 | | | | | | |
| 142 | | | | | | |
| 143 | | | | | | |
| 144 | | | | | | |
| 145 | **FY 2013** | | | | | |
| 146 | | | | | | |
| 147 | | **INVEST** | **NET** | **NET** | **OPER** | **TOTAL** |
| 148 | | **BASE** | **INT** | **REVS** | **EXP** | **(B+C+D)** |
| 149 | 1. GENERATION COSTS | | | | | |
| 150 | | | | | | |
| 151 | 2. FEDERAL BASE SYSTEM | | | | | |
| 152 | 3. HYDRO | | 172,530 | 38,749 | 484,659 | 695,938 |
| 153 | 4. FISH AND WILDLIFE | 293,187 | 18,828 | 4,229 | 302,591 | 325,648 |
| 154 | 5. TROJAN | | | | 2,400 | 2,400 |
| 155 | 6. WNP #1 | | | | 292,968 | 292,968 |
| 156 | 7. CGS | | | | 549,085 | 549,085 |
| 157 | 8. WNP #3 | | | | 178,719 | 178,719 |
| 158 | 9. SYSTEM AUGMENTATION | | | | 310,848 | 310,848 |
| 159 | 10. BALANCING POWER PURCHASES | | | | 77,313 | 77,313 |
| 160 | 11. TOTAL FEDERAL BASE SYSTEM | 293,187 | 191,358 | 42,978 | 2,198,584 | 2,432,919 |
| 161 | | | | | | |
| 162 | 12. NEW RESOURCES | | | | | |
| 163 | 13. IDAHO FALLS | | | | | |
| 164 | 14. COWLITZ FALLS | | | | | |
| 165 | 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 166 | 16. TOTAL NEW RESOURCES | | | | | |
| 167 | | | | | | |
| 168 | 17. RESIDENTIAL EXCHANGE | | | | | |
| 169 | | | | | | |
| 170 | 18. CONSERVATION | | | | | |
| 171 | | | | | | |
| 172 | 19. OTHER GENERATION COSTS | | | | | |
| 173 | 20. BPA PROGRAMS | 11,049 | 710 | 159 | 151,035 | 151,904 |
| 174 | 21. WNP #3 PLANT | | | | | |
| 175 | 22. TOTAL OTHER GENERATION COSTS | 11,049 | 710 | 159 | 151,035 | 151,904 |
| 176 | | | | | | |
| 177 | 23. TOTAL GENERATION COSTS | 304,236 | 192,068 | 43,137 | 2,349,619 | 2,584,823 |
| 178 | | | | | | |
| 179 | 24. TRANSMISSION COSTS | | | | | |
| 180 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 120,862 | 120,862 |
| 181 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 182 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,437 | 52,437 |
| 183 | 28. TOTAL TRANSMISSION COSTS | | | | 174,299 | 174,299 |
| 184 | | | | | | |
| 185 | 29. TOTAL PBL REVENUE REQUIREMENT | | 192,068 | 43,137 | 2,523,918 | 2,759,122 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2D** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **7B2 CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 186 | | | | | | |
| 187 | | | | | | |
| 188 | | | | | | |
| 189 | | | | | | |
| 190 | | | | | | |
| 191 | **FY 2014** | | | | | |
| 192 | | | | | | |
| 193 | | **INVEST** | **NET** | **NET** | **OPER** | **TOTAL** |
| 194 | | **BASE** | **INT** | **REVS** | **EXP** | **(B+C+D)** |
| 195 | 1. GENERATION COSTS | | | | | |
| 196 | | | | | | |
| 197 | 2. FEDERAL BASE SYSTEM | | | | | |
| 198 | 3. HYDRO | | 191,620 | 0 | 499,708 | 691,328 |
| 199 | 4. FISH AND WILDLIFE | 312,758 | 22,214 | 0 | 295,673 | 317,887 |
| 200 | 5. TROJAN | | | | 2,500 | 2,500 |
| 201 | 6. WNP #1 | | | | 292,140 | 292,140 |
| 202 | 7. CGS | | | | 515,143 | 515,143 |
| 203 | 8. WNP #3 | | | | 175,460 | 175,460 |
| 204 | 9. SYSTEM AUGMENTATION | | | | 308,232 | 308,232 |
| 205 | 10. BALANCING POWER PURCHASES | | | | 80,171 | 80,171 |
| 206 | 11. TOTAL FEDERAL BASE SYSTEM | 312,758 | 213,834 | 0 | 2,169,027 | 2,382,861 |
| 207 | | | | | | |
| 208 | 12. NEW RESOURCES | | | | | |
| 209 | 13. IDAHO FALLS | | | | | |
| 210 | 14. COWLITZ FALLS | | | | | |
| 211 | 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 212 | 16. TOTAL NEW RESOURCES | | | | | |
| 213 | | | | | | |
| 214 | 17. RESIDENTIAL EXCHANGE | | | | | |
| 215 | | | | | | |
| 216 | 18. CONSERVATION | | | | | |
| 217 | | | | | | |
| 218 | 19. OTHER GENERATION COSTS | | | | | |
| 219 | 20. BPA PROGRAMS | 10,189 | 724 | 0 | 156,853 | 157,577 |
| 220 | 21. WNP #3 PLANT | | | | | |
| 221 | 22. TOTAL OTHER GENERATION COSTS | 10,189 | 724 | 0 | 156,853 | 157,577 |
| 222 | | | | | | |
| 223 | 23. TOTAL GENERATION COSTS | 322,947 | 214,558 | 0 | 2,325,880 | 2,540,438 |
| 224 | | | | | | |
| 225 | 24. TRANSMISSION COSTS | | | | | |
| 226 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 123,519 | 123,519 |
| 227 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 228 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,446 | 52,446 |
| 229 | 28. TOTAL TRANSMISSION COSTS | | | | 176,965 | 176,965 |
| 230 | | | | | | |
| 231 | 29. TOTAL PBL REVENUE REQUIREMENT | | 214,558 | 0 | 2,502,845 | 2,717,403 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 2D** | | | | | |
| 2 | | | | | | |
| 3 | **Generation Revenue Requirements by Resource Pool** | | | | | |
| 4 | **7B2 CASE** | | | | | |
| 5 | **($000s)** | | | | | |
| 232 | | | | | | |
| 233 | | | | | | |
| 234 | | | | | | |
| 235 | | | | | | |
| 236 | | | | | | |
| 237 | **FY 2015** | | | | | |
| 238 | | | | | | |
| 239 | | **INVEST** | **NET** | **NET** | **OPER** | **TOTAL** |
| 240 | | **BASE** | **INT** | **REVS** | **EXP** | **(B+C+D)** |
| 241 | 1. GENERATION COSTS | | | | | |
| 242 | | | | | | |
| 243 | 2. FEDERAL BASE SYSTEM | | | | | |
| 244 | 3. HYDRO | | 204,560 | 2,784 | 513,971 | 721,314 |
| 245 | 4. FISH AND WILDLIFE | 330,116 | 25,657 | 349 | 304,864 | 330,870 |
| 246 | 5. TROJAN | | | | 2,600 | 2,600 |
| 247 | 6. WNP #1 | | | | 220,020 | 220,020 |
| 248 | 7. CGS | | | | 612,178 | 612,178 |
| 249 | 8. WNP #3 | | | | 193,459 | 193,459 |
| 250 | 9. SYSTEM AUGMENTATION | | | | 415,263 | 415,263 |
| 251 | 10. BALANCING POWER PURCHASES | | | | 44,484 | 44,484 |
| 252 | 11. TOTAL FEDERAL BASE SYSTEM | 330,116 | 230,217 | 3,133 | 2,306,838 | 2,540,188 |
| 253 | | | | | | |
| 254 | 12. NEW RESOURCES | | | | | |
| 255 | 13. IDAHO FALLS | | | | | |
| 256 | 14. COWLITZ FALLS | | | | | |
| 257 | 15. OTHER LONG-TERM POWER PURCHASES | | | | | |
| 258 | 16. TOTAL NEW RESOURCES | | | | | |
| 259 | | | | | | |
| 260 | 17. RESIDENTIAL EXCHANGE | | | | | |
| 261 | | | | | | |
| 262 | 18. CONSERVATION | | | | | |
| 263 | | | | | | |
| 264 | 19. OTHER GENERATION COSTS | | | | | |
| 265 | 20. BPA PROGRAMS | 7,498 | 583 | 8 | 162,582 | 163,173 |
| 266 | 21. WNP #3 PLANT | | | | | |
| 267 | 22. TOTAL OTHER GENERATION COSTS | 7,498 | 583 | 8 | 162,582 | 163,173 |
| 268 | | | | | | |
| 269 | 23. TOTAL GENERATION COSTS | 337,614 | 230,800 | 3,141 | 2,469,420 | 2,703,361 |
| 270 | | | | | | |
| 271 | 24. TRANSMISSION COSTS | | | | | |
| 272 | 25. TBL TRANSMISSION/ANCILLARY SERVICES | | | | 122,179 | 122,179 |
| 273 | 26. 3RD PARTY TRANS/ANCILLARY SERVICES | | | | 1,000 | 1,000 |
| 274 | 27. GENERAL TRANSFER AGREEMENTS | | | | 52,446 | 52,446 |
| 275 | 28. TOTAL TRANSMISSION COSTS | | | | 175,625 | 175,625 |
| 276 | | | | | | |
| 277 | 29. TOTAL PBL REVENUE REQUIREMENT | | 230,800 | 3,141 | 2,645,045 | 2,878,986 |

# Table 2E

## Regulation
## Power Revenue Requirement for
## Big Ten Hydroelectric Projects and F&W
## ($000s)

| | | A | B |
|---|---|---|---|
| | | **2010** | **2011** |
| 1 | **Big 10 Dams** | | |
| 2 | O&M | 190,624 | 198,930 |
| 3 | Depreciation | 70,178 | 71,478 |
| 4 | Net Interest | 80,529 | 81,738 |
| 5 | Minimum Required Net Revenues | 26,074 | 21,935 |
| 6 | Subtotal | 367,405 | 374,081 |
| | | | |
| 7 | **Fish & Wildlife 1/** | | |
| 8 | O&M | 265,892 | 286,181 |
| 9 | Amortization/Depreciation | 37,331 | 40,910 |
| 10 | Net Interest | 43,253 | 48,896 |
| 11 | Minimum Required Net Revenues | 14,005 | 13,121 |
| 12 | Subtotal | 360,481 | 389,109 |
| | | | |
| 13 | A&G Expense 1/ 2/ | 85,464 | 87,265 |
| | | | |
| 14 | Total Revenue Requirement | 813,350 | 850,455 |
| 15 | Revenue Credits: | | |
| 16 | 4h10C (non-operations) 1/ | 57,835 | 60,067 |
| 17 | Colville payment Treas. Credit | 4,600 | 4,600 |
| 18 | **Net Revenue Requirement** | 750,915 | 785,788 |
| | | | |
| 19 | Capacity Factor for Big Ten Projects | 0.91 | |
| | | | |
| | | **2010** | **2011** |
| 19 | Big 10 average net plant | 3,091,721 | 3,118,466 |
| 20 | Total COE/BOR av net plt | 5,179,606 | 5,290,646 |
| 21 | Percent of total | 59.69% | 58.94% |
| | | | |
| 22 | O&M by project | | |
| 23 | Columbia Basin | 83,308 | 90,369 |
| 24 | Bonneville | 22,185 | 22,407 |
| 25 | John Day | 18,792 | 18,980 |
| 26 | The Dalles | 18,854 | 19,043 |
| 27 | Chief Joseph | 22,993 | 23,224 |
| 28 | Ice Harbor | 9,148 | 9,240 |
| 29 | Lower Granite | 11,865 | 11,984 |
| 30 | Lower Monumental | 9,518 | 9,613 |
| 31 | Little Goose | 8,643 | 8,730 |
| 32 | McNary | 24,733 | 24,981 |
| 33 | Total O&M | 230,039 | 238,571 |

1/ Scaled from total of these elements by line 19.
2/ Corporate Expense and 1/2 Planning Council

# Table 2F

## Operating Reserves
## Power Revenue Requirement for
## All Hydroelectric Projects and F&W
## ($000s)

| | | 2010 | 2011 |
|---|---|---|---|
| 1 | **All Hydro Projects 1/** | | |
| 2 | O&M | 229,563 | 238,981 |
| 3 | Depreciation | 86,739 | 88,286 |
| 4 | Net Interest | 102,591 | 104,060 |
| 5 | Minimum Required Net Revenues | 33,218 | 27,925 |
| 6 | Total Revenue Requirement | 452,111 | 459,252 |
| 7 | **Fish & Wildlife 2/** | | |
| 8 | O&M | 283,424 | 305,050 |
| 9 | Amortization/Depreciation | 39,792 | 43,607 |
| 10 | Net Interest | 46,105 | 52,120 |
| 11 | Minimum Required Net Revenues | 14,928 | 13,986 |
| 12 | Subtotal | 384,249 | 414,764 |
| 13 | A&G Expense 2/ 3/ | 91,099 | 93,019 |
| 14 | Total Revenue Requirement | 927,460 | 967,036 |
| 15 | Revenue Credits | | |
| 16 | 4h10C (non-operations) 2/ | 61,648 | 64,028 |
| 17 | Colville payment Treasury Credit | 4,600 | 4,600 |
| 18 | **Net Revenue Requirement** | **861,212** | **898,408** |
| 19 | Capacity Factor for Projects in BA | 0.97 | |
| | **In COSA for Hydro:** | | |
| 20 | Net Interest | 134,911 | 138,674 |
| 21 | Minimum Required Net Revenues | 43,682 | 37,213 |
| 22 | Total Hydro Net Plant | 5,179,606 | 5,290,646 |
| 23 | Operating Reserves Projects' Net Plant | | |
| 24 | 2009 Net Plant | 3,914,465 | |
| 25 | 2010 Net Plant | 3,963,064 | |
| 26 | 2011 Net Plant | 3,977,112 | |
| 27 | Operating Reserves Net Plant | 3,938,765 | 3,970,088 |
| 28 | percent of total | 76% | 75% |

1/ Excludes Boise, Minidoka-Palisades, Green Springs (USBR) and Lost Creek (COE).
2/ Scaled from total of these elements by line 19.
3/ Expense and 1/2 Planning Council

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | **Table 2G** | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | **Synchronous Condensers** | | | | | | | | |
| 4 | | | | | | | | | **Net Plant Calculation** | | | | | | | | |
| 5 | | | | | | | | | **($000s)** | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | **plant-** | | | | | | | | | | | | | |
| 8 | | | | **in-service** | **Annual** | | | | **Accumulated Depreciation** | | | | | | | | |
| 9 | | **Life** | **Project** | **1999** | **Deprec** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** |
| 10 | 1 | 75.0 | John Day | 3,956 | 53 | 53 | 106 | 159 | 212 | 265 | 318 | 371 | 424 | 477 | 530 | 583 | 636 |
| 11 | 2 | 75.0 | The Dalles | 3,753 | 50 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| 12 | 3 | | TOTAL | 7,709 | 103 | 103 | 206 | 309 | 412 | 515 | 618 | 721 | 824 | 927 | 1,030 | 1,133 | 1,236 |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | 4 | net plant investment | | | | 7,606 | 7,503 | 7,400 | 7,297 | 7,194 | 7,091 | 6,988 | 6,885 | 6,782 | 6,679 | 6,576 | 6,473 |

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Table 2H** | | | |
| 2 | | | | |
| 3 | **Determination of Synchronous Condensor Annual Costs** | | | |
| 4 | **($000s)** | | | |
| 5 | | | | |
| 6 | | | **2010** | **2011** |
| 7 | | | | |
| 8 | 1 | Synchronous Condensers Net Plant | 6,576 | 6,473 |
| 9 | 2 | Total Corps/Bureau Average Net Plant | 5,179,606 | 5,290,646 |
| 10 | 3 | percent | 0.13% | 0.12% |
| 11 | 4 | Corps/Bureau Net Interest | 134,911 | 138,674 |
| 12 | 5 | Sync Cond Net Interest | 171 | 170 |
| 13 | 6 | Corps/Bureau MRNR | 43,682 | 37,213 |
| 14 | 7 | Sync Cond MRNR | 55 | 46 |
| 15 | 8 | Sync Cond Depreciation | 103 | 103 |
| 16 | 9 | Total Sync Cond Costs | 329 | 319 |
| 17 | | | | |

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | **Table 2I** | | | | |
| 2 | | | | | | | | |
| 3 | | | | **COE/BOR Transmission Costs** | | | | |
| 4 | | | | **($000s)** | | | | |
| 5 | | | | | | | | |
| 6 | | | **Total** | | | **Total** | | |
| 7 | | | **2010** | **Network** | **Delivery** | **2011** | **Network** | **Delivery** |
| 8 | 1 | O&M | 3,906 | 3,184 | 722 | 4,299 | 3,501 | 798 |
| 9 | 2 | Depreciation | 777 | 751 | 26 | 777 | 751 | 26 |
| 10 | 3 | Interest Expense | 1,028 | 991 | 37 | 1,014 | 978 | 36 |
| 11 | 4 | MRNR | 333 | 321 | 12 | 272 | 262 | 10 |
| 12 | 5 | Total COE/BOR Trans Costs | 6,044 | 5,247 | 797 | 6,362 | 5,492 | 870 |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | 6 | Average Net Transmission Plant | 39,477 | 38,074 | 1,403 | 38,700 | 37,323 | 1,377 |
| 17 | 7 | Total Hydro Projects Average Net Plant | 5,179,606 | | | 5,290,646 | | |
| 18 | 8 | percent Transmission | 0.76% | | | 0.73% | | |
| 19 | | | | | | | | |
| 20 | 9 | Revenue Requirement MRNR | 54,110 | | | 46,505 | | |
| 21 | 10 | Revenue Requirement Total PNR | 54,110 | | | 46,505 | | |
| 22 | 11 | percent MRNR | 100% | | | 100% | | |
| 23 | | | | | | | | |

## Table 2J

### Corps/Bureau Transmission Plant, Investment, & Depreciation
### ($000s)

| | | 2010 GROSS PLANT | 2010 DEPREC EXP | 2010 O&M | 2010 AVG NET PLANT | 2011 GROSS PLANT | 2011 DEPREC EXP | 2011 O&M | 2011 AVG NET PLANT |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **Bureau of Reclamation** | | | | | | | | |
| 2 | COLUMBIA BASIN | | | | | | | | |
| 3 | Network | 50,920 | 679 | 2,414 | 33,910 | 50,920 | 679 | 2,699 | 33,231 |
| 4 | Delivery | 763 | 10 | 36 | 507 | 763 | 10 | 40 | 497 |
| 5 | TOTAL | 51,684 | 689 | 2,450 | 34,419 | 51,684 | 689 | 2,739 | 33,730 |
| 6 | HUNGRY HORSE | | | | | | | | |
| 7 | Network | 1,120 | 15 | 34 | 652 | 1,120 | 15 | 38 | 637 |
| 8 | MINIDOKA-PALISADES | | | | | | | | |
| 9 | Network | 1,266 | 17 | 726 | 932 | 1,266 | 17 | 815 | 915 |
| 10 | Delivery | 1,217 | 16 | 698 | 896 | 1,217 | 16 | 784 | 880 |
| 11 | TOTAL | 2,483 | 33 | 1,424 | 1,828 | 2,483 | 33 | 1,599 | 1,795 |
| 12 | **Corps of Engineers** | | | | | | | | |
| 13 | BONNEVILLE | | | | | | | | |
| 14 | Network | 3,000 | 40 | 65 | 2,580 | 3,000 | 40 | 65 | 2,540 |
| | | | | | | | | | |
| 15 | **TOTAL TRANSMISSION** | | | | | | | | |
| 16 | Network | 56,306 | 751 | 3,239 | 38,074 | 56,306 | 751 | 3,617 | 37,323 |
| 17 | Delivery | 1,980 | 26 | 734 | 1,403 | 1,980 | 26 | 824 | 1,377 |
| 18 | TOTAL | 58,286 | 777 | 3,973 | 39,477 | 58,286 | 777 | 4,441 | 38,700 |

| | A | B | C | D |
|---|---|---|---|---|
| 1 | | **Table 2K** | | |
| 2 | | | | |
| 3 | | **Total F&W and A&G Costs** | | |
| 4 | | **($000s)** | | |
| 5 | | | | |
| 6 | | | 2010 | 2011 |
| 7 | 1 | Fish & Wildlife | | |
| 8 | 2 | O&M | 292,189 | 314,485 |
| 9 | 3 | Amortization/Depreciation | 41,023 | 44,956 |
| 10 | 4 | Net Interest | 47,531 | 53,732 |
| 11 | 5 | Minimum Required Net Revenues | 15,390 | 14,419 |
| 12 | 6 | Subtotal | 396,133 | 427,592 |
| 13 | | | | |
| 14 | 7 | A&G Expense 1/ | 93,917 | 95,896 |
| 15 | | | | |
| 16 | 8 | Revenue Credits: | | |
| 17 | 9 | 4h10C (non-operations) | 63,555 | 66,008 |
| 18 | | | | |
| 19 | | | 2,010 | 2,011 |
| 20 | 10 | Big 10 average net plant | 3,091,721 | 3,118,466 |
| 21 | 11 | Total COE/BOR av net plt | 5,179,606 | 5,290,646 |
| 22 | 12 | Percent of total | 60% | 59% |
| 23 | | | | |
| 24 | 13 | COE/USFW F&W COSTS | | |
| 25 | 14 | O&M: USFW | 23,600 | 24,480 |
| 26 | 15 | COE | 40,447 | 40,738 |
| 27 | 16 | Depreciation | 17,119 | 18,471 |
| 28 | 17 | Interest | 30,192 | 32,558 |
| 29 | 18 | Minimum Required Net Revenues | 9,776 | 8,737 |
| 30 | 19 | CRFM/LSFW Average Net Plant | 1,159,174 | 1,242,139 |
| 31 | 20 | Percent of total | 22.38% | 23.48% |
| 32 | 21 | F&W O&M in Big 10 Projects | 31,415 | 31,641 |
| 33 | 22 | F&W O&M in Col Basin O&M | 8,000 | 8,000 |
| 34 | | | | |
| 35 | 23 | 4H10C non-operations | | |
| 36 | 24 | Direct Program Expense | 215,000 | 236,000 |
| 37 | 25 | Direct Program Capital | 70,000 | 60,000 |
| 38 | 26 | Credit @ 22.3% | 63,555 | 66,008 |
| 39 | | | | |
| 40 | | | | |
| 41 | 1/ | Power Marketing Sales & Support, Power Scheduling, Generation Oversight, Corporate Expense and 1/2 Planning Council | | |

# 3. GENERATION EXPENSES

## 3.1 Introduction

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

## 3.2 Expenses

Table 3A displays the expenses used in the revenue requirement income statement and statement of cash flows of the Study. See Revenue Requirement Study, WP-10-FS-BPA-02, Tables 5A and 5B. Table 3B displays the expense statement used in the revised revenue test in the Study. Id. Tables 6A through 9. Table 3B includes expenses that are revised as a result of the rate development process such as Residential Exchange Benefits, depicted in Figure 1 of the Study. Id. at 7

O&M program expenses are from the Integrated Program Review with revisions. Id. at Appendix A. Federal Projects Depreciation calculations are found in Chapter 4 of this document. Interest expense is summarized here from the results of the annual generation repayment studies. The calculation of AFUDC is also shown in this chapter.

Debt service for Energy Northwest (EN) projects are based on the tables found in Chapter 8, Capitalized Contract Obligations, of this document.

COE and Reclamation O&M must be functionalized between generation and the transmission component that will be included in transmission rates.

Depreciation expense, calculated using the straight-line method, is functionalized according to the associated investment used in the calculations as identified in Chapter 4 of this document.

Interest expense is calculated in the repayment studies for generation using the generation capital appropriations and BPA revenue bonds issued to Treasury at individual interest rates. Generation AFUDC is associated with BPA's direct funding of COE and Reclamation power-related capital projects.

**Table 3A**

**Power Services Program Spendng Levels**
**($000s)**

| | A | B C D E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | **Rate Period** | | | **7b2 Period** | | |
| 4 | | | **FY 2010** | **FY 2011** | **FY 2012** | **FY 2013** | **FY 2014** | **FY 2015** |
| 5 | 1 | Power System Generation Resources | | | | | | |
| 6 | 2 | Operating Generation | | | | | | |
| 7 | 3 | COLUMBIA GENERATING STATION | 257,811 | 324,882 | 328,652 | 408,219 | 335,492 | 399,092 |
| 8 | 4 | BUREAU OF RECLAMATION | 87,318 | 96,110 | 104,690 | 107,200 | 109,786 | 112,450 |
| 9 | 5 | CORPS OF ENGINEERS | 191,060 | 192,433 | 201,361 | 206,975 | 212,756 | 220,711 |
| 10 | 6 | LONG-TERM CONTRACT GENERATING PROJECTS | 30,456 | 30,768 | 29,828 | 30,520 | 31,143 | 31,905 |
| 11 | 7 | **Sub-Total** | **566,645** | **644,193** | **664,531** | **752,914** | **689,177** | **764,158** |
| 12 | 8 | Operating Generation Settlement Payment | | | | | | |
| 13 | 9 | COLVILLE GENERATION SETTLEMENT | 21,328 | 21,754 | 22,189 | 22,633 | 23,086 | 23,533 |
| 14 | 10 | SPOKANE GENERATION SETTLEMENT | - | - | - | - | - | - |
| 15 | 11 | **Sub-Total** | **21,328** | **21,754** | **22,189** | **22,633** | **23,086** | **23,533** |
| 16 | 12 | Non-Operating Generation | | | | | | |
| 17 | 13 | TROJAN DECOMMISSIONING | 2,200 | 2,300 | 2,300 | 2,400 | 2,500 | 2,600 |
| 18 | 14 | WNP-1&3 DECOMMISSIONING | 418 | 428 | 438 | 448 | 458 | 468 |
| 19 | 15 | **Sub-Total** | **2,618** | **2,728** | **2,738** | **2,848** | **2,958** | **3,068** |
| 20 | 16 | Gross Contracted Power Purchases | | | | | | |
| 21 | 17 | DSI MONETIZED POWER SALES | - | - | - | - | - | - |
| 22 | 18 | PNCA HEADWATER BENEFITS | 2,042 | 2,620 | 2,870 | 3,120 | 3,370 | 3,620 |
| 23 | 19 | HEDGING/MITIGATION | - | - | - | - | - | - |
| 24 | 20 | OTHER POWER PURCHASES | 87,631 | 72,107 | 85,220 | 77,313 | 80,171 | 44,484 |
| 25 | 21 | **Sub-Total** | **89,673** | **74,727** | **88,090** | **80,433** | **83,541** | **48,104** |
| 26 | 22 | Bookout Adjustments to Contracted Power Purchases | | - | - | - | - | |
| 27 | 23 | Augmentation Power Purchases | | | | | | |
| 28 | 24 | AUGMENTATION POWER PURCHASES | 180,599 | 272,917 | 211,656 | 310,848 | 308,232 | 415,263 |
| 29 | 25 | CONSERVATION AUGMENTATION | - | - | - | - | - | - |
| 30 | 26 | Exchanges & Settlements | | | | | | |
| 31 | 27 | IOU RESIDENTIAL EXCHANGE | - | - | - | - | - | - |
| 32 | 28 | PUBLIC RESIDENTIAL EXCHANGE | - | - | - | - | - | - |
| 33 | 29 | RESIDENTIAL EXCHANGE PROGRAM SUPPORT | 2,421 | 1,440 | 2,564 | 1,583 | 2,604 | 1,700 |
| 34 | 30 | **Sub-Total** | **2,421** | **1,440** | **2,564** | **1,583** | **2,604** | **1,700** |
| 35 | 31 | Renewable Generation | | | | | | |
| 36 | 32 | RENEWABLES | 35,414 | 36,005 | 65,040 | 65,697 | 66,360 | 66,360 |
| 37 | 33 | RENEWABLE CONSERVATION RATE CREDIT | 4,000 | 2,500 | - | - | - | - |
| 38 | 34 | RENEWABLES R&D | 6,174 | 6,133 | 10,175 | 10,707 | 10,736 | 10,736 |
| 39 | 35 | **Sub-Total** | **45,588** | **44,638** | **75,214** | **76,404** | **77,096** | **77,096** |

**Table 3A**

**Power Services Program Spendng Levels**
**($000s)**

| | A | B C D E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | **Rate Period** | | | **7b2 Period** | | |
| 4 | | | **FY 2010** | **FY 2011** | **FY 2012** | **FY 2013** | **FY 2014** | **FY 2015** |
| 40 | 36 | Generation Conservation | | | | | | |
| 41 | 37 | GENERATION CONSERVATION R&D | | | | | | |
| 42 | 38 | LOW INCOME WEATHERIZATION & TRIBAL (expense agreements & grants) | 5,000 | 5,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| 43 | 39 | ENERGY EFFICIENCY DEVELOPMENT (Federal reimbursable program) | 20,500 | 20,500 | 22,000 | 22,000 | 22,000 | 22,000 |
| 44 | 40 | CONSERVATION ACQUISITION (program support & evaluation) | 14,000 | 14,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| 45 | 41 | LEGACY CONSERVATION | 1,988 | 1,622 | 999 | 1,311 | 717 | 717 |
| 46 | 42 | MARKET TRANSFORMATION | 14,500 | 14,500 | 15,000 | 15,000 | 15,000 | 15,000 |
| 47 | 43 | DSM TECHNOLOGY | | | | | | |
| 48 | 44 | **Sub-Total** | **55,988** | **55,622** | **58,999** | **59,311** | **58,717** | **58,717** |
| 49 | 45 | Conservation Rate Credit (CRC) | 28,000 | 29,500 | 32,000 | 32,000 | 32,000 | 32,000 |
| 50 | 46 | **Sub-Total** | **992,860** | **1,147,519** | **1,157,981** | **1,338,974** | **1,277,411** | **1,423,639** |
| 51 | 47 | | | | | | | |
| 52 | 48 | Power Non-Generation Operations | | | | | | |
| 53 | 49 | Power Services System Operations | | | | | | |
| 54 | 50 | EFFICIENCIES PROGRAM | | | | | | |
| 55 | 51 | PBL System Operations R&D | | | | | | |
| 56 | 52 | INFORMATION TECHNOLOGY | 6,318 | 6,282 | 6,519 | 6,720 | 6,927 | 7,130 |
| 57 | 53 | GENERATION PROJECT COORDINATION | 7,290 | 7,542 | 8,272 | 6,129 | 6,290 | 6,451 |
| 58 | 54 | SLICE IMPLEMENTATION | 2,396 | 2,448 | 2,717 | 2,653 | 2,745 | 2,837 |
| 59 | 55 | **Sub-Total** | **16,004** | **16,272** | **17,508** | **15,502** | **15,962** | **16,418** |
| 60 | 56 | Power Services Scheduling | | | | | | |
| 61 | 57 | OPERATIONS SCHEDULING | 9,317 | 9,564 | 9,639 | 9,972 | 10,362 | 10,714 |
| 62 | 58 | PBL Scheduling R&D | | | | | | |
| 63 | 59 | OPERATIONS PLANNING | 5,808 | 5,874 | 6,594 | 6,662 | 6,888 | 7,114 |
| 64 | 60 | **Sub-Total** | **15,125** | **15,438** | **16,233** | **16,635** | **17,250** | **17,828** |
| 65 | 61 | Power Services Marketing and Business Support | | | | | | |
| 66 | 62 | SALES & SUPPORT | 16,699 | 17,885 | 17,707 | 19,373 | 19,060 | 20,672 |
| 67 | 63 | PUBLIC COMMUNICATION & TRIBAL LIAISON | - | - | - | - | - | - |
| 68 | 64 | STRATEGY, FINANCE & RISK MGMT | 16,870 | 17,343 | 20,323 | 19,956 | 21,648 | 21,648 |
| 69 | 65 | EXECUTIVE AND ADMINISTRATIVE SERVICES | 2,546 | 2,727 | 5,505 | 5,574 | 5,749 | 5,749 |
| 70 | 66 | CONSERVATION SUPPORT | 11,356 | 12,003 | 12,774 | 13,153 | 13,549 | 14,273 |
| 71 | 67 | **Sub-Total** | **47,472** | **49,957** | **56,309** | **58,056** | **60,006** | **62,342** |
| 72 | 68 | **Sub-Total** | **78,601** | **81,667** | **90,051** | **90,192** | **93,218** | **96,588** |
| 73 | 69 | | | | | | | |
| 74 | 70 | POWER SERVICES TRANSMISSION & ANCILLARY SERVICES | 119,177 | 117,401 | 114,362 | 113,812 | 116,469 | 115,129 |
| 75 | 71 | 3RD PARTY GTA WHEELING | 50,690 | 51,340 | 52,428 | 52,437 | 52,446 | 52,446 |
| 76 | 72 | POWER SERVICES - 3RD PARTY TRANS & ANCILLARY SVCS | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 77 | 73 | GENERATION INTEGRATION | 6,800 | 6,800 | 7,000 | 7,000 | 7,000 | 7,000 |
| 78 | 74 | TELEMETERING/EQUIP REPLACEMT | 50 | 50 | 50 | 50 | 50 | 50 |
| 79 | 75 | **Sub-Total** | **177,717** | **176,591** | **174,840** | **174,299** | **176,965** | **175,625** |

**Table 3A**

**Power Services Program Spendng Levels**
**($000s)**

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | **Rate Period** | | | **7b2 Period** | | |
| 4 | | | | | | **FY 2010** | **FY 2011** | **FY 2012** | **FY 2013** | **FY 2014** | **FY 2015** |
| 80 | 76 | | | | | | | | | | |
| 81 | 77 | | BPA Fish and Wildlife (includes F&W Shared Services) | | | | | | | | |
| 82 | 78 | | | FISH & WILDLIFE | | 215,000 | 236,000 | 256,541 | 262,559 | 253,571 | 260,000 |
| 83 | 79 | | | F&W HIGH PRIORITY ACTION PROJECTS | | | | | | | |
| 84 | 80 | | | Sub-Total | | 215,000 | 236,000 | 256,541 | 262,559 | 253,571 | 260,000 |
| 85 | 81 | | USF&W Lower Snake Hatcheries | | | 23,600 | 24,480 | 25,760 | 27,340 | 27,210 | 28,000 |
| 86 | 82 | | Planning Council | | | 9,683 | 9,934 | 10,035 | 10,235 | 10,440 | 10,642 |
| 87 | 83 | | Environmental Requirements | | | 300 | 300 | 300 | 300 | 300 | 300 |
| 88 | 84 | | **Sub-Total** | | | **248,583** | **270,714** | **292,635** | **300,434** | **291,521** | **298,942** |
| 89 | 85 | | | | | | | | | | |
| 90 | 86 | BPA Internal Support | | | | | | | | | |
| 91 | 87 | | Additional Post-Retirement Contribution | | | 15,447 | 15,579 | 16,395 | 16,740 | 17,069 | 17,409 |
| 92 | 88 | | Agency Services G&A (excludes direct project support) | | | 49,961 | 50,064 | 53,923 | 55,562 | 57,263 | 58,964 |
| 93 | 89 | | Shared Services (includes Supply Chain & excludes direct project | | | - | - | - | - | - | - |
| 94 | 90 | | BPA Internal Support Sub-Total | | | **65,408** | **65,643** | **70,318** | **72,302** | **74,332** | **76,373** |
| 95 | 91 | | | | | | | | | | |
| 96 | 92 | Other Income, Expenses, & Adjustments | | | | | | | | | |
| 97 | 93 | | | | | | | | | | |
| 98 | 94 | Non-Federal Debt Service | | | | | | | | | |
| 99 | 95 | | Energy Northwest Debt Service | | | | | | | | |
| 100 | 96 | | | COLUMBIA GENERATING STATION DEBT SVC | | 235,736 | 226,169 | 300,055 | 140,867 | 179,651 | 213,086 |
| 101 | 97 | | | WNP-1 DEBT SVC | | 166,013 | 167,549 | 192,513 | 292,520 | 291,682 | 219,552 |
| 102 | 98 | | | WNP-3 DEBT SVC | | 144,892 | 169,093 | 162,208 | 178,719 | 175,460 | 193,459 |
| 103 | 99 | | | EN RETIRED DEBT | | | | | | | |
| 104 | 100 | | | EN LIBOR INTEREST RATE SWAP | | | | | | | |
| 105 | 101 | | | **Sub-Total** | | **546,641** | **562,811** | **654,775** | **612,105** | **646,793** | **626,096** |
| 106 | 102 | | Non-Energy Northwest Debt Service | | | | | | | | |
| 107 | 103 | | | TROJAN DEBT SVC | | - | - | - | - | - | - |
| 108 | 104 | | | CONSERVATION DEBT SVC | | 5,079 | 4,924 | 4,923 | 4,917 | 4,911 | 305 |
| 109 | 105 | | | COWLITZ FALLS DEBT SVC | | 11,566 | 11,563 | 11,559 | 11,546 | 11,542 | 11,531 |
| 110 | 106 | | | NORTHERN WASCO DEBT SVC | | 2,200 | 2,196 | 2,193 | 2,192 | 2,193 | 2,190 |
| 111 | 107 | | | **Sub-Total** | | **18,845** | **18,683** | **18,676** | **18,655** | **18,645** | **14,026** |
| 112 | 108 | | **Sub-Total** | | | **565,486** | **581,494** | **673,451** | **630,760** | **665,438** | **640,122** |
| 113 | 109 | | | | | | | | | | |
| 114 | 110 | | **Total** | | | **2,128,654** | **2,323,628** | **2,459,276** | **2,606,962** | **2,578,884** | **2,711,289** |
| 115 | | | | | | | | | | | |

## Table 3B

## Power Services Program Spendng Levels for Revenue Test
## ($000s)

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | **FY 2010** | **FY 2011** |
| 3 | 1 | Power System Generation Resources | | | | | |
| 4 | 2 | | Operating Generation | | | | |
| 5 | 3 | | | COLUMBIA GENERATING STATION | | 257,811 | 324,882 |
| 6 | 4 | | | BUREAU OF RECLAMATION | | 87,318 | 96,110 |
| 7 | 5 | | | CORPS OF ENGINEERS | | 191,060 | 192,433 |
| 8 | 6 | | | LONG-TERM CONTRACT GENERATING PROJECTS | | 30,456 | 30,768 |
| 9 | 7 | | | **Sub-Total** | | **566,645** | **644,193** |
| 10 | 8 | | Operating Generation Settlement Payment | | | | |
| 11 | 9 | | | COLVILLE GENERATION SETTLEMENT | | 21,328 | 21,754 |
| 12 | 10 | | | SPOKANE GENERATION SETTLEMENT | | - | - |
| 13 | 11 | | | **Sub-Total** | | **21,328** | **21,754** |
| 14 | 12 | | Non-Operating Generation | | | | |
| 15 | 13 | | | TROJAN DECOMMISSIONING | | 2,200 | 2,300 |
| 16 | 14 | | | WNP-1&3 DECOMMISSIONING | | 418 | 428 |
| 17 | 15 | | | **Sub-Total** | | **2,618** | **2,728** |
| 18 | 16 | | Gross Contracted Power Purchases | | | | |
| 19 | 17 | | | DSI MONETIZED POWER SALES | | - | - |
| 20 | 18 | | | PNCA HEADWATER BENEFITS | | 2,042 | 2,620 |
| 21 | 19 | | | HEDGING/MITIGATION | | - | - |
| 22 | 20 | | | OTHER POWER PURCHASES | | 87,631 | 72,107 |
| 23 | 21 | | | **Sub-Total** | | **89,673** | **74,727** |
| 24 | 22 | | Bookout Adjustments to Contracted Power Purchases | | | - | - |
| 25 | 23 | | Augmentation Power Purchases | | | | |
| 26 | 24 | | | AUGMENTATION POWER PURCHASES | | 180,599 | 272,917 |
| 27 | 25 | | | CONSERVATION AUGMENTATION | | - | - |
| 28 | 26 | | Exchanges & Settlements | | | | |
| 29 | 27 | | | IOU RESIDENTIAL EXCHANGE | | 252,349 | 257,227 |
| 30 | 28 | | | PUBLIC RESIDENTIAL EXCHANGE | | 12,098 | 10,012 |
| 31 | 29 | | | RESIDENTIAL EXCHANGE PROGRAM SUPPORT | | 2,421 | 1,440 |
| 32 | 30 | | | **Sub-Total** | | **266,868** | **268,679** |
| 33 | 31 | | Renewable Generation | | | | |
| 34 | 32 | | | RENEWABLES | | 35,414 | 36,005 |
| 35 | 33 | | | RENEWABLE CONSERVATION RATE CREDIT | | 4,000 | 2,500 |
| 36 | 34 | | | RENEWABLES R&D | | 6,174 | 6,133 |
| 37 | 35 | | | **Sub-Total** | | **45,588** | **44,638** |
| 38 | 36 | | Generation Conservation | | | | |
| 39 | 37 | | | GENERATION CONSERVATION R&D | | | |
| 40 | 38 | | | LOW INCOME WEATHERIZATION & TRIBAL (expense agreements & grants) | | 5,000 | 5,000 |
| 41 | 39 | | | ENERGY EFFICIENCY DEVELOPMENT (Federal reimbursable program) | | 20,500 | 20,500 |
| 42 | 40 | | | CONSERVATION ACQUISITION (program support & evaluation) | | 14,000 | 14,000 |
| 43 | 41 | | | LEGACY CONSERVATION | | 1,988 | 1,622 |
| 44 | 42 | | | MARKET TRANSFORMATION | | 14,500 | 14,500 |
| 45 | 43 | | | DSM TECHNOLOGY | | | |
| 46 | 44 | | | **Sub-Total** | | **55,988** | **55,622** |
| 47 | 45 | | Conservation Rate Credit (CRC) | | | 28,000 | 29,500 |
| 48 | 46 | | **Sub-Total** | | | **1,257,307** | **1,414,758** |

**Table 3B**

**Power Services Program Spendng Levels for Revenue Test**
**($000s)**

| | A | B C D E | F | G |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | **FY 2010** | **FY 2011** |
| 49 | 47 | | | |
| 50 | 48 | Power Non-Generation Operations | | |
| 51 | 49 | Power Services System Operations | | |
| 52 | 50 | EFFICIENCIES PROGRAM | - | - |
| 53 | 51 | PBL System Operations R&D | - | - |
| 54 | 52 | INFORMATION TECHNOLOGY | 6,318 | 6,282 |
| 55 | 53 | GENERATION PROJECT COORDINATION | 7,290 | 7,542 |
| 56 | 54 | SLICE IMPLEMENTATION | 2,396 | 2,448 |
| 57 | 55 | **Sub-Total** | **16,004** | **16,272** |
| 58 | 56 | Power Services Scheduling | | |
| 59 | 57 | OPERATIONS SCHEDULING | 9,317 | 9,564 |
| 60 | 58 | PBL Scheduling R&D | | |
| 61 | 59 | OPERATIONS PLANNING | 5,808 | 5,874 |
| 62 | 60 | **Sub-Total** | **15,125** | **15,438** |
| 63 | 61 | Power Services Marketing and Business Support | | |
| 64 | 62 | SALES & SUPPORT | 16,699 | 17,885 |
| 65 | 63 | PUBLIC COMMUNICATION & TRIBAL LIAISON | - | - |
| 66 | 64 | STRATEGY, FINANCE & RISK MGMT | 16,870 | 17,343 |
| 67 | 65 | EXECUTIVE AND ADMINISTRATIVE SERVICES | 2,546 | 2,727 |
| 68 | 66 | CONSERVATION SUPPORT | 11,356 | 12,003 |
| 69 | 67 | **Sub-Total** | **47,472** | **49,957** |
| 70 | 68 | **Sub-Total** | **78,601** | **81,667** |
| 71 | 69 | | | |
| 72 | 70 | POWER SERVICES TRANSMISSION & ANCILLARY SERVICES | 128,677 | 107,901 |
| 73 | 71 | 3RD PARTY GTA WHEELING | 50,690 | 51,340 |
| 74 | 72 | POWER SERVICES - 3RD PARTY TRANS & ANCILLARY SVCS | 1,000 | 1,000 |
| 75 | 73 | GENERATION INTEGRATION | 6,800 | 6,800 |
| 76 | 74 | TELEMETERING/EQUIP REPLACEMT | 50 | 50 |
| 77 | 75 | **Sub-Total** | **187,217** | **167,091** |
| 78 | 76 | | | |
| 79 | 77 | BPA Fish and Wildlife (includes F&W Shared Services) | | |
| 80 | 78 | FISH & WILDLIFE | 215,000 | 236,000 |
| 81 | 79 | F&W HIGH PRIORITY ACTION PROJECTS | | |
| 82 | 80 | Sub-Total | 215,000 | 236,000 |
| 83 | 81 | USF&W Lower Snake Hatcheries | 23,600 | 24,480 |
| 84 | 82 | Planning Council | 9,683 | 9,934 |
| 85 | 83 | Environmental Requirements | 300 | 300 |
| 86 | 84 | **Sub-Total** | **248,583** | **270,714** |
| 87 | 85 | | | |
| 88 | 86 | BPA Internal Support | | |
| 89 | 87 | Additional Post-Retirement Contribution | 15,447 | 15,579 |
| 90 | 88 | Agency Services G&A (excludes direct project support) | 49,961 | 50,064 |
| 91 | 89 | Shared Services (includes Supply Chain & excludes direct project support) | - | - |
| 92 | 90 | BPA Internal Support Sub-Total | **65,408** | **65,643** |
| 93 | 91 | | | |
| 94 | 92 | Other Income, Expenses, & Adjustments | | |

**Table 3B**

**Power Services Program Spendng Levels for Revenue Test**
**($000s)**

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | **FY 2010** | **FY 2011** |
| 95 | 93 | | | | | | |
| 96 | 94 | Non-Federal Debt Service | | | | | |
| 97 | 95 | | Energy Northwest Debt Service | | | | |
| 98 | 96 | | | COLUMBIA GENERATING STATION DEBT SVC | | 235,736 | 226,169 |
| 99 | 97 | | | WNP-1 DEBT SVC | | 166,013 | 167,549 |
| 100 | 98 | | | WNP-3 DEBT SVC | | 144,892 | 169,093 |
| 101 | 99 | | | EN RETIRED DEBT | | | |
| 102 | 100 | | | EN LIBOR INTEREST RATE SWAP | | | |
| 103 | 101 | | | **Sub-Total** | | **546,641** | **562,811** |
| 104 | 102 | | Non-Energy Northwest Debt Service | | | | |
| 105 | 103 | | | TROJAN DEBT SVC | | - | - |
| 106 | 104 | | | CONSERVATION DEBT SVC | | 5,079 | 4,924 |
| 107 | 105 | | | COWLITZ FALLS DEBT SVC | | 11,566 | 11,563 |
| 108 | 106 | | | NORTHERN WASCO DEBT SVC | | 2,200 | 2,196 |
| 109 | 107 | | | **Sub-Total** | | **18,845** | **18,683** |
| 110 | 108 | | **Sub-Total** | | | **565,486** | **581,494** |
| 111 | 109 | | | | | | |
| 112 | 110 | | **Total** | | | **2,402,601** | **2,581,368** |

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | **Table 3C** | | | |
| 2 | | | | | | | | |
| 3 | | | | | **Functionalization of COE/Reclamation O&M** | | | |
| 4 | | | | | **($000s)** | | | |
| 5 | | | | | | | | |
| 6 | | | **Average** | | | **Average** | | |
| 7 | | | **Investment** | | **O&M** | **Investment** | | **O&M** |
| 8 | | | **2010** | **Percent** | **2010** | **2011** | **Percent** | **2011** |
| 9 | 1 | BOISE | | | | | | |
| 10 | 2 | **GENERATION** | | 100.00% | 4,788 | | 100.00% | 5,270 |
| 11 | 3 | COLUMBIA BASIN | | | | | | |
| 12 | 4 | **GENERATION** | 1,330,353 | 96.26% | 62,776 | 1,337,267 | 96.28% | 69,111 |
| 13 | 5 | TRANSMISSION | 51,684 | 3.74% | 2,439 | 51,684 | 3.72% | 2,671 |
| 14 | 6 | TOTAL | 1,382,037 | 100.00% | 65,215 | 1,388,951 | 100.00% | 71,782 |
| 15 | 7 | GREEN SPRINGS | | | | | | |
| 16 | 8 | **GENERATION** | | 100.00% | 758 | | 100.00% | 834 |
| 17 | 9 | HUNGRY HORSE | | | | | | |
| 18 | 10 | GENERATION | 132,234 | 99.16% | 4,039 | 135,739 | 99.18% | 4,446 |
| 19 | 11 | TRANSMISSION | 1,120 | 0.84% | 34 | 1,120 | 0.82% | 37 |
| 20 | 12 | **TOTAL** | 133,354 | 100.00% | 4,073 | 136,859 | 100.00% | 4,483 |
| 21 | 13 | MINIDOKA-PALISADES | | | | | | |
| 22 | 14 | GENERATION | 111,726 | 97.83% | 7,133 | 111,826 | 97.83% | 7,853 |
| 23 | 15 | TRANSMISSION | 2,483 | 2.17% | 1,418 | 2,483 | 2.17% | 1,559 |
| 24 | 16 | TOTAL | 114,209 | 100.00% | 8,551 | 114,309 | 100.00% | 9,412 |
| 25 | **17** | **YAKIMA** | | | | | | |
| 26 | 18 | GENERATION | | 100.00% | 3,932 | | 100.00% | 4,328 |
| 27 | | | | | | | | |
| 28 | 19 | GENERATION 1/ | | | 104,754 | | | 113,596 |
| 29 | 20 | TRANSMISSION | | | 3,891 | | | 4,267 |
| 30 | 21 | TOTAL USBR | | | 108,645 | | | 117,863 |
| 31 | | | | | | | | |
| 32 | | | | | | | | |
| 33 | 1/ | INCLUDES COLVILLE PAYMENT OF | | | 21,328 | | | 21,754 |
| 34 | | | | | | | | |
| 35 | | | | | | | | |
| 36 | | | | | | | | |
| 37 | 22 | BONNEVILLE | | | | | | |
| 38 | 23 | GENERATION | 1,039,858 | 99.71% | 22,342 | 1,075,254 | 99.72% | 22,502 |
| 39 | 24 | TRANSMISSION | 3,000 | 0.29% | 64 | 3,000 | 0.28% | 63 |
| 40 | 25 | TOTAL | 1,042,858 | 100.00% | 22,406 | 1,078,254 | 100.00% | 22,565 |
| 41 | 26 | OTHER PROJECTS | | | | | | |
| 42 | **27** | **CORPS - GENERATION ONLY** | | | **168,654** | | | **169,868** |
| 43 | 28 | USF&W (LSRCP) | | | 23600 | | | 24,480 |

# Table 3D

## Allocation of Total O&M to Projects for COE and Reclamation based on actual data
## ($000s)

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | FY 2006 | FY 2007 | FY 2008 | AVERAGE | FY 2010 | FY 2011 |
| 7 | 1 | BOISE | 2,837 | 3,359 | 4,216 | 3,471 | 4,788 | 5,270 |
| 8 | 2 | COLUMBIA BASIN | 42,375 | 47,337 | 52,103 | 47,272 | 65,215 | 71,782 |
| 9 | 3 | GREEN SPRINGS | 624 | 514 | 510 | 549 | 758 | 834 |
| 10 | 4 | HUNGRY HORSE | 2,105 | 3,086 | 3,665 | 2,952 | 4,073 | 4,483 |
| 11 | 5 | MINIDOKA | 4,775 | 6,584 | 7,235 | 6,198 | 8,551 | 9,412 |
| 12 | 6 | YAKIMA | 2,295 | 3,496 | 2,760 | 2,850 | 3,932 | 4,328 |
| 13 | 7 | **Total Reclamation** | | | | **63,292** | **87,318** | **96,110** |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | 8 | ALBENI FALLS | 3,440 | 4,291 | 4,772 | 4,168 | 5,345 | 5,383 |
| 18 | 9 | BONNEVILLE | 13,800 | 18,135 | 20,475 | 17,470 | 22,406 | 22,565 |
| 19 | 10 | CHIEF JOSEPH | 13,557 | 19,309 | 21,299 | 18,055 | 23,155 | 23,322 |
| 20 | 11 | COUGAR | 760 | 779 | 859 | 799 | 1,025 | 1,033 |
| 21 | 12 | DETROIT | 1,906 | 6,726 | 7,000 | 5,211 | 6,683 | 6,731 |
| 22 | 13 | DWORSHAK | 6,241 | 8,965 | 9,569 | 8,258 | 10,591 | 10,667 |
| 23 | 14 | GREEN-PETER | 2,176 | 2,931 | 3,388 | 2,832 | 3,632 | 3,658 |
| 24 | 15 | HILLS CREEK | 491 | 738 | 763 | 664 | 852 | 858 |
| 25 | 16 | ICE HARBOR | 5,840 | 7,174 | 8,536 | 7,183 | 9,213 | 9,279 |
| 26 | 17 | JOHN DAY | 11,379 | 16,001 | 16,888 | 14,756 | 18,924 | 19,060 |
| 27 | 18 | LIBBY | 5,134 | 6,494 | 6,613 | 6,080 | 7,798 | 7,854 |
| 28 | 19 | LITTLE GOOSE | 5,519 | 7,220 | 7,622 | 6,787 | 8,704 | 8,767 |
| 29 | 20 | LOOKOUT POINT | 2,603 | 4,628 | 4,974 | 4,068 | 5,218 | 5,255 |
| 30 | 21 | LOST CREEK | 1,216 | 1,780 | 1,888 | 1,628 | 2,088 | 2,103 |
| 31 | 22 | LOWER GRANITE | 8,040 | 9,565 | 10,346 | 9,317 | 11,949 | 12,035 |
| 32 | 23 | LOWER MONUMENTAL | 6,136 | 8,183 | 8,102 | 7,474 | 9,585 | 9,654 |
| 33 | 24 | MCNARY | 12,155 | 17,146 | 28,963 | 19,421 | 24,908 | 25,087 |
| 34 | 25 | THE DALLES | 12,995 | 15,740 | 15,679 | 14,805 | 18,987 | 19,123 |
| 35 | 26 | **Total COE** | | | | **148,976** | **191,060** | **192,433** |
| 36 | | | | | | | | |

## Table 3E

## Summary of Generation Current Repayment Study Data
## ($000s)

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | INTEREST EXPENSE (GROSS) | | | | | | |
| 2 | CORPS | 163,461 | 153,214 | 148,053 | 148,998 | 154,526 | 152,551 |
| 3 | RECLAMATION | 43,367 | 43,306 | 43,306 | 43,306 | 40,141 | 40,141 |
| 4 | LOWER SNAKE RIVER COMPENSATION PLAN | 16,450 | 16,450 | 16,450 | 16,450 | 16,450 | 16,450 |
| 5 | TOTAL APPROPRIATIONS | 223,278 | 212,832 | 207,809 | 208,753 | 211,118 | 209,142 |
| 6 | BONDS ISSUED TO TREASURY | 42,061 | 58,140 | 77,206 | 96,999 | 117,180 | 136,771 |
| 7 | TOTAL INTEREST EXPENSE | 265,339 | 270,972 | 285,015 | 305,752 | 328,298 | 345,913 |
| | | | | | | | |
| 8 | PLANNED AMORTIZATION | | | | | | |
| 9 | CORPS | 201,755 | 144,163 | 46,834 | 76,968 | 81,259 | 21,002 |
| 10 | BUREAU | 850 | - | - | 44,197 | - | - |
| 11 | LOWER SNAKE RIVER COMPENSATION PLAN | | | - | - | - | - |
| 12 | TOTAL APPROPRIATIONS | 202,605 | 144,163 | 46,834 | 121,165 | 81,259 | 21,002 |
| 13 | LONG-TERM DEBT | 68 | 60,000 | 92,800 | 10,000 | 15,950 | 32,819 |
| 14 | TOTAL GENERATION AMORTIZATION | 202,673 | 204,163 | 139,634 | 131,165 | 97,209 | 53,821 |
| 15 | IRRIGATION ASSISTANCE | - | - | 1,206 | 60,027 | 53,500 | 122,193 |
| 16 | TOTAL AMORTIZATION/IRRIGATION | 202,673 | 204,163 | 140,840 | 191,192 | 150,709 | 176,013 |

**Table 3F**

**Summary of 7(b)(2) Case Repayment Study Data**
**($000s)**

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | INTEREST EXPENSE (GROSS) | | | | | | |
| 2 | CORPS | 156,429 | 146,574 | 141,756 | 143,097 | 147,249 | 146,843 |
| 3 | RECLAMATION | 43,336 | 43,306 | 43,306 | 40,141 | 40,141 | 40,141 |
| 4 | LOWER SNAKE RIVER COMPENSATION PLAN | 16,450 | 16,450 | 16,450 | 16,450 | 16,450 | 16,450 |
| 5 | TOTAL APPROPRIATIONS | 216,214 | 206,330 | 201,511 | 199,688 | 203,840 | 203,434 |
| 6 | BONDS ISSUED TO TREASURY | 36,504 | 51,514 | 68,250 | 88,840 | 106,709 | 124,182 |
| 7 | TOTAL INTEREST EXPENSE | 252,718 | 257,844 | 269,761 | 288,528 | 310,550 | 327,615 |
| | | | | | | | |
| 8 | PLANNED AMORTIZATION | | | | | | |
| 9 | CORPS | 196,920 | 139,693 | 41,322 | 96,306 | 59,308 | 4,389 |
| 10 | BUREAU | 412 | - | 44,197 | - | - | - |
| 11 | LOWER SNAKE RIVER COMPENSATION PLAN | - | - | - | - | - | - |
| 12 | TOTAL APPROPRIATIONS | 197,332 | 139,693 | 85,520 | 96,306 | 59,308 | 4,389 |
| 13 | LONG-TERM DEBT | 68 | 60,000 | 20,000 | - | 950 | - |
| 14 | TOTAL GENERATION AMORTIZATION | 197,400 | 199,693 | 105,520 | 96,306 | 60,258 | 4,389 |
| 15 | IRRIGATION ASSISTANCE | - | - | 1,206 | 60,027 | 53,500 | 127,812 |
| 16 | TOTAL AMORTIZATION/IRRIGATION | 197,400 | 199,693 | 106,726 | 156,333 | 113,758 | 132,201 |

## Table 3G

## Federal Projects Depreciation Summary
## ($000s)

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | BPA (PBL + CORP GP) | 18,023 | 16,212 | 16,302 | 15,769 | 17,341 | 18,942 |
| 2 | Corps 1/ | 79,659 | 82,400 | 84,324 | 85,327 | 87,869 | 88,752 |
| 3 | Reclamation | 22,429 | 22,623 | 23,729 | 27,126 | 30,693 | 31,967 |
| 4 | **Total Depreciation** | **120,111** | **121,235** | **124,355** | **128,222** | **135,903** | **139,661** |
| 5 | Amortization of Legacy Conservation | 25,289 | 23,439 | 20,948 | 17,408 | 13,930 | 9,649 |
| 6 | Amortization of ConAug | 13,335 | 13,335 | - | - | - | - |
| 7 | Amortization of Conservation Acquisitions | 10,261 | 17,501 | 24,953 | 33,366 | 40,080 | 44,240 |
| 8 | Amortization of CRFM Intangible Investmer | 4,938 | 4,938 | 4,938 | 4,938 | 4,938 | 4,938 |
| 9 | Amortization of Fish & Wildlife | 23,904 | 26,485 | 27,725 | 29,497 | 31,362 | 33,922 |
| 10 | **Total Amortization** | **77,728** | **85,699** | **78,564** | **85,209** | **90,310** | **92,749** |
| 11 | **Total Federal Projects Depreciation** | **197,839** | **206,934** | **202,919** | **213,431** | **226,213** | **232,410** |
| | 1/ excludes depreciation from investments paid for by BPA-TS | 23 | 23 | 23 | 23 | 23 | 23 |

## Table 3H

### Amortization of Power Regulatory Assets
### ($000s)

| | | FY 2010 | FY 2011 |
|---|---|---|---|
| 1 | Terminated Nuclear Facilities | 133,694 | 172,774 |
| 2 | REP Lookback Amount from IOUs | 82,079 | 81,066 |
| 3 | Columbia River Fish Mitigation amortization | 4,938 | 4,938 |
| 4 | Conservation Measures | | |
| 5 | Additions | 32,800 | 39,600 |
| 6 | Amortization | 10,261 | 17,501 |
| 7 | Direct Service Industries' benefit 1/ | - | - |
| 8 | Fish and Wildlife Measures | | |
| 9 | Additions | 70,000 | 60,000 |
| 10 | Amortization | 23,904 | 26,485 |
| 11 | Settlements | 21,328 | 21,754 |
| 12 | FECA 2/ | - | - |
| 13 | Sponsored Conservation | 3,980 | 4,147 |
| 14 | Trojan Decommissioning/Restoration | 2,200 | 2,300 |
| 15 | Terminated Hydro Facilities | 1,037 | 1,087 |
| 16 | Capitalized Bond Premiums | 185 | 185 |

1/ This is now modeled in the rate case as a power sale with offsetting augmentation purchases. The net costs are $32.902 million and $42.823 million for 2010 and 2011 respectively.

2/ Not specifically broken out in program personnel expenses

# 4. FCRPS GENERATION INVESTMENT BASE

## 4.1 Introduction

This chapter documents the development of the FCRPS generation investment base by year for the rate approval period and the outyears. The investment data are the source of depreciation calculations and provide certain inputs to the generation repayment studies. It is also the basis for allocations of net interest expense and planned net revenues in the development of the COSA tables and the generation inputs to ancillary services.

## 4.2 Methodology

The FCRPS plant investment information is separately compiled for the COE, Reclamation, and BPA, including BPA conservation and fish and wildlife investments. BPA generation (general) plant investment consists of office furniture and fixtures and data processing software and hardware associated with the Power Business Line, including the Energy Efficiency Group. Historical investment data are taken from the supporting documents of FCRPS financial statements. All plant investment is depreciated and intangible plant is amortized using the straight-line method. Tables 4A and 4B have not been republished in this supplement because they are not necessary for calculations for FY 2010-2011.

For BPA facilities, forecasted depreciation expense is calculated consistent with the group concept methodology used for plant accounting records. For general plant categories, average service lives incorporate an adjustment for salvage applicable to the individual groups. Both historical investment and forecasted additions are depreciated according to their adjusted group life.

BPA conservation investments use three different amortization schedules depending on when the investment occurred. Legacy investments, made before 2002, are amortized over 20 years. Conservation augmentation investments, made from 2002 through 2006, use a declining 10 year schedule ending in 2011. Conservation acquisition investments, made after 2006, are amortized over 5 years.

BPA fish and wildlife investments are amortized over 15 years.

COE and Reclamation investments are depreciated according to the weighted-average service lives of the individual projects.

Projected investments and projected depreciation expenses are accumulated with historical amounts to provide projected cumulative investments and accumulated depreciation for each forecasted year.

The investment base is calculated for each year of the rate period and outyears as an annual average.

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | **Table 4A** | | | |
| 2 | | | | | | |
| 3 | | | **FCRPS Investment Base** | | | |
| 4 | | | **FY 2010** | | | |
| 5 | | | **($000s)** | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | **BALANCE-AS-OF** | | **AVERAGE** |
| 9 | | | | **9/30/2009** | **9/30/2010** | **2010** |
| 10 | | | **CORPS OF ENGINEERS** | | | |
| 11 | | | COMPLETED PLANT | | | |
| 12 | | | HYDROELECTRIC GEN | 6,283,570 | 6,504,859 | 6,394,215 |
| 13 | | | TRANSMISSION | 3,000 | 3,000 | 3,000 |
| 14 | | | TOTAL COMPLETED PLANT | 6,286,570 | 6,507,859 | 6,397,215 |
| 15 | | | ACCUMULATED DEPRECIATION | | | |
| 16 | | | HYDROELECTRIC GEN | 2,303,727 | 2,388,307 | 2,346,017 |
| 17 | | | TRANSMISSION | 400 | 440 | 420 |
| 18 | | | TOTAL ACCUMULATED DEPRECIATION | 2,304,127 | 2,388,747 | 2,346,437 |
| 19 | | | NET COMPLETED PLANT | | | |
| 20 | | | HYDROELECTRIC GEN | 3,979,843 | 4,116,552 | 4,048,198 |
| 21 | | | TRANSMISSION | 2,600 | 2,560 | 2,580 |
| 22 | | | TOTAL NET COMPLETED PLANT | 3,982,443 | 4,119,112 | 4,050,778 |
| 23 | | | **BUREAU OF RECLAMATION** | | | |
| 24 | | | COMPLETED PLANT | | | |
| 25 | | | HYDROELECTRIC GEN | 1,620,137 | 1,633,563 | 1,626,850 |
| 26 | | | TRANSMISSION | 55,287 | 55,287 | 55,287 |
| 27 | | | TOTAL COMPLETED PLANT | 1,675,424 | 1,688,850 | 1,682,137 |
| 28 | | | ACCUMULATED DEPRECIATION | | | |
| 29 | | | HYDROELECTRIC GEN | 524,073 | 545,765 | 534,919 |
| 30 | | | TRANSMISSION | 18,021 | 18,758 | 18,390 |
| 31 | | | TOTAL ACCUM DEPRECIATION | 542,094 | 564,523 | 553,309 |
| 32 | | | NET COMPLETED PLANT | | | |
| 33 | | | HYDROELECTRIC GEN | 1,096,064 | 1,087,798 | 1,091,931 |
| 34 | | | TRANSMISSION | 37,266 | 36,529 | 36,897 |
| 35 | | | TOTAL NET COMPLETED PLANT | 1,133,330 | 1,124,327 | 1,128,828 |
| 36 | | | **CONSERVATION** | | | |
| 37 | | | CUMULATIVE INVESTMENT | 654,249 | 652,954 | 653,602 |
| 38 | | | ACCUM PREPAID EXPENSE | 489,449 | 504,239 | 496,844 |
| 39 | | | NET CONSERVATION | 164,800 | 148,715 | 156,758 |
| 40 | | | **FISH AND WILDLIFE** | | | |
| 41 | | | CUMULATIVE INVESTMENT | 335,813 | 373,327 | 354,570 |
| 42 | | | ACCUM PREPAID EXPENSE | 154,763 | 146,181 | 150,472 |
| 43 | | | NET FISH AND WILDLIFE | 181,050 | 227,146 | 204,098 |
| 44 | | | **BPA PLANT (PBL)** | | | |
| 45 | | | CUMULATIVE INVESTMENT | 89,184 | 101,184 | 95,184 |
| 46 | | | ACCUMULATED DEPRECIATION | 67,918 | 85,941 | 76,930 |
| 47 | | | NET BPA PLANT INVESTMENT | 21,266 | 15,243 | 18,254 |
| 48 | | | **TOTAL NET PLANT INVESTMENT** | 5,482,889 | 5,634,542 | 5,558,716 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | **Table 4B** | | | |
| 2 | | | | | | |
| 3 | | | **FCRPS Investment Base** | | | |
| 4 | | | **FY 2011** | | | |
| 5 | | | **($000s)** | | | |
| 6 | | | | | | |
| 7 | | | | **BALANCE-AS-OF** | | **AVERAGE** |
| 8 | | | | **9/30/2010** | **9/30/2011** | **2011** |
| 9 | | | **CORPS OF ENGINEERS** | | | |
| 10 | | | COMPLETED PLANT | | | |
| 11 | | | HYDROELECTRIC GEN | 6,504,859 | 6,693,442 | 6,599,151 |
| 12 | | | GEN INTEGRATION | 3,000 | 3,000 | 3,000 |
| 13 | | | TOTAL COMPLETED PLANT | 6,507,859 | 6,696,442 | 6,602,151 |
| 14 | | | ACCUMULATED DEPRECIATION | | | |
| 15 | | | HYDROELECTRIC GEN | 2,388,307 | 2,475,628 | 2,431,968 |
| 16 | | | GEN INTEGRATION | 440 | 480 | 460 |
| 17 | | | TOTAL ACCUMULATED DEPRECIATION | 2,388,747 | 2,476,108 | 2,432,428 |
| 18 | | | NET COMPLETED PLANT | | | |
| 19 | | | HYDROELECTRIC GEN | 4,116,552 | 4,217,814 | 4,167,183 |
| 20 | | | GEN INTEGRATION | 2,560 | 2,520 | 2,540 |
| 21 | | | TOTAL NET COMPLETED PLANT | 4,119,112 | 4,220,334 | 4,169,723 |
| 22 | | | **BUREAU OF RECLAMATION** | | | |
| 23 | | | COMPLETED PLANT | | | |
| 24 | | | HYDROELECTRIC GEN | 1,633,563 | 1,649,379 | 1,641,471 |
| 25 | | | GEN INTEGRATION | 55,287 | 55,287 | 55,287 |
| 26 | | | TOTAL COMPLETED PLANT | 1,688,850 | 1,704,666 | 1,696,758 |
| 27 | | | ACCUMULATED DEPRECIATION | | | |
| 28 | | | HYDROELECTRIC GEN | 545,765 | 567,651 | 556,708 |
| 29 | | | GEN INTEGRATION | 18,758 | 19,495 | 19,127 |
| 30 | | | TOTAL ACCUM DEPRECIATION | 564,523 | 587,146 | 575,835 |
| 31 | | | NET COMPLETED PLANT | | | |
| 32 | | | HYDROELECTRIC GEN | 1,087,798 | 1,081,728 | 1,084,763 |
| 33 | | | GEN INTEGRATION | 36,529 | 35,792 | 36,160 |
| 34 | | | TOTAL NET COMPLETED PLANT | 1,124,327 | 1,117,520 | 1,120,923 |
| 35 | | | **CONSERVATION** | | | |
| 36 | | | CUMULATIVE INVESTMENT | 652,954 | 646,840 | 649,897 |
| 37 | | | ACCUM PREPAID EXPENSE | 504,239 | 512,801 | 508,520 |
| 38 | | | NET CONSERVATION | 148,715 | 134,039 | 141,377 |
| 39 | | | **FISH AND WILDLIFE** | | | |
| 40 | | | CUMULATIVE INVESTMENT | 373,327 | 407,281 | 390,304 |
| 41 | | | ACCUM PREPAID EXPENSE | 146,181 | 146,620 | 146,401 |
| 42 | | | NET FISH AND WILDLIFE | 227,146 | 260,661 | 243,903 |
| 43 | | | **BPA PLANT (PBL)** | | | |
| 44 | | | CUMULATIVE INVESTMENT | 101,184 | 114,064 | 107,624 |
| 45 | | | ACCUMULATED DEPRECIATION | 85,941 | 102,153 | 94,047 |
| 46 | | | NET BPA PLANT INVESTMENT | 15,243 | 11,911 | 13,577 |
| 47 | | | **TOTAL NET PLANT INVESTMENT** | 5,634,542 | 5,744,465 | 5,689,503 |
| 48 | | | | | | |

## Table 4C

## FCRPS Investment Base
## FY 2012
## ($000s)

| | BALANCE-AS-OF 9/30/2011 | 9/30/2012 | AVERAGE 2012 |
|---|---|---|---|
| **CORPS OF ENGINEERS** | | | |
| COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 6,693,442 | 6,768,706 | 6,731,074 |
| TRANSMISSION | 3,000 | 3,000 | 3,000 |
| TOTAL COMPLETED PLANT | 6,696,442 | 6,771,706 | 6,734,074 |
| ACCUMULATED DEPRECIATION | | | |
| HYDROELECTRIC GEN | 2,475,628 | 2,564,873 | 2,520,251 |
| TRANSMISSION | 480 | 520 | 500 |
| TOTAL ACCUMULATED DEPRECIATION | 2,476,108 | 2,565,393 | 2,520,751 |
| NET COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 4,217,814 | 4,203,833 | 4,210,823 |
| TRANSMISSION | 2,520 | 2,480 | 2,500 |
| TOTAL NET COMPLETED PLANT | 4,220,334 | 4,206,313 | 4,213,323 |
| **BUREAU OF RECLAMATION** | | | |
| COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 1,649,379 | 1,799,398 | 1,724,389 |
| TRANSMISSION | 55,287 | 55,287 | 55,287 |
| TOTAL COMPLETED PLANT | 1,704,666 | 1,854,685 | 1,779,676 |
| ACCUMULATED DEPRECIATION | | | |
| HYDROELECTRIC GEN | 567,651 | 590,643 | 579,147 |
| TRANSMISSION | 19,495 | 20,232 | 19,864 |
| TOTAL ACCUM DEPRECIATION | 587,146 | 610,875 | 599,011 |
| NET COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 1,081,728 | 1,208,755 | 1,145,242 |
| TRANSMISSION | 35,792 | 35,055 | 35,423 |
| TOTAL NET COMPLETED PLANT | 1,117,520 | 1,243,810 | 1,180,665 |
| **CONSERVATION** | | | |
| CUMULATIVE INVESTMENT | 646,840 | 526,841 | 586,841 |
| ACCUM PREPAID EXPENSE | 512,801 | 391,503 | 452,152 |
| NET CONSERVATION | 134,039 | 135,338 | 134,689 |
| **FISH AND WILDLIFE** | | | |
| CUMULATIVE INVESTMENT | 407,281 | 429,217 | 418,249 |
| ACCUM PREPAID EXPENSE | 146,620 | 146,281 | 146,451 |
| NET FISH AND WILDLIFE | 260,661 | 282,936 | 271,798 |
| **BPA PLANT (PBL)** | | | |
| CUMULATIVE INVESTMENT | 114,064 | 129,594 | 121,829 |
| ACCUMULATED DEPRECIATION | 102,153 | 118,455 | 110,304 |
| NET BPA PLANT INVESTMENT | 11,911 | 11,139 | 11,525 |
| **TOTAL NET PLANT INVESTMENT** | 5,744,465 | 5,879,536 | 5,812,000 |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | **Table 4D** | | | |
| 2 | | | | | | |
| 3 | | | **FCRPS Investment Base** | | | |
| 4 | | | **FY 2013** | | | |
| 5 | | | **($000s)** | | | |
| 6 | | | | | | |
| 7 | | | | **BALANCE-AS-OF** | | **AVERAGE** |
| 8 | | | | **9/30/2012** | **9/30/2013** | **2013** |
| 9 | | **CORPS OF ENGINEERS** | | | | |
| 10 | | COMPLETED PLANT | | | | |
| 11 | | | HYDROELECTRIC GEN | 6,768,706 | 6,959,349 | 6,864,028 |
| 12 | | | TRANSMISSION | 3,000 | 3,000 | 3,000 |
| 13 | | TOTAL COMPLETED PLANT | | 6,771,706 | 6,962,349 | 6,867,028 |
| 14 | | ACCUMULATED DEPRECIATION | | | | |
| 15 | | | HYDROELECTRIC GEN | 2,564,873 | 2,655,121 | 2,609,997 |
| 16 | | | TRANSMISSION | 520 | 560 | 540 |
| 17 | | TOTAL ACCUMULATED DEPRECIATION | | 2,565,393 | 2,655,681 | 2,610,537 |
| 18 | | NET COMPLETED PLANT | | | | |
| 19 | | | HYDROELECTRIC GEN | 4,203,833 | 4,304,228 | 4,254,031 |
| 20 | | | TRANSMISSION | 2,480 | 2,440 | 2,460 |
| 21 | | TOTAL NET COMPLETED PLANT | | 4,206,313 | 4,306,668 | 4,256,491 |
| 22 | | **BUREAU OF RECLAMATION** | | | | |
| 23 | | COMPLETED PLANT | | | | |
| 24 | | | HYDROELECTRIC GEN | 1,799,398 | 2,158,987 | 1,979,193 |
| 25 | | | TRANSMISSION | 55,287 | 55,287 | 55,287 |
| 26 | | TOTAL COMPLETED PLANT | | 1,854,685 | 2,214,274 | 2,034,480 |
| 27 | | ACCUMULATED DEPRECIATION | | | | |
| 28 | | | HYDROELECTRIC GEN | 590,643 | 617,032 | 603,838 |
| 29 | | | TRANSMISSION | 20,232 | 20,969 | 20,601 |
| 30 | | TOTAL ACCUM DEPRECIATION | | 610,875 | 638,001 | 624,439 |
| 31 | | NET COMPLETED PLANT | | | | |
| 32 | | | HYDROELECTRIC GEN | 1,208,755 | 1,541,955 | 1,375,355 |
| 33 | | | TRANSMISSION | 35,055 | 34,318 | 34,686 |
| 34 | | TOTAL NET COMPLETED PLANT | | 1,243,810 | 1,576,273 | 1,410,041 |
| 35 | | **CONSERVATION** | | | | |
| 36 | | | CUMULATIVE INVESTMENT | 526,841 | 471,185 | 499,013 |
| 37 | | | ACCUM PREPAID EXPENSE | 391,503 | 339,421 | 365,462 |
| 38 | | | NET CONSERVATION | 135,338 | 131,764 | 133,551 |
| 39 | | **FISH AND WILDLIFE** | | | | |
| 40 | | | CUMULATIVE INVESTMENT | 429,217 | 457,222 | 443,219 |
| 41 | | | ACCUM PREPAID EXPENSE | 146,281 | 153,783 | 150,032 |
| 42 | | | NET FISH AND WILDLIFE | 282,936 | 303,439 | 293,187 |
| 43 | | **BPA PLANT (PBL)** | | | | |
| 44 | | | CUMULATIVE INVESTMENT | 129,594 | 145,184 | 137,389 |
| 45 | | | ACCUMULATED DEPRECIATION | 118,455 | 134,224 | 126,340 |
| 46 | | | NET BPA PLANT INVESTMENT | 11,139 | 10,960 | 11,049 |
| 47 | | **TOTAL NET PLANT INVESTMENT** | | 5,879,536 | 6,329,104 | 6,104,319 |
| 48 | | | | | | |

## Table 4E

## FCRPS Investment Base
## FY 2014
## ($000s)

| | BALANCE-AS-OF 9/30/2013 | 9/30/2014 | AVERAGE 2014 |
|---|---|---|---|
| **CORPS OF ENGINEERS** | | | |
| COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 6,959,349 | 7,025,573 | 6,992,461 |
| TRANSMISSION | 3,000 | 3,000 | 3,000 |
| TOTAL COMPLETED PLANT | 6,962,349 | 7,028,573 | 6,995,461 |
| ACCUMULATED DEPRECIATION | | | |
| HYDROELECTRIC GEN | 2,655,121 | 2,747,911 | 2,701,516 |
| TRANSMISSION | 560 | 600 | 580 |
| TOTAL ACCUMULATED DEPRECIATION | 2,655,681 | 2,748,511 | 2,702,096 |
| NET COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 4,304,228 | 4,277,662 | 4,290,945 |
| TRANSMISSION | 2,440 | 2,400 | 2,420 |
| TOTAL NET COMPLETED PLANT | 4,306,668 | 4,280,062 | 4,293,365 |
| **BUREAU OF RECLAMATION** | | | |
| COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 2,158,987 | 2,334,409 | 2,246,698 |
| TRANSMISSION | 55,287 | 55,287 | 55,287 |
| TOTAL COMPLETED PLANT | 2,214,274 | 2,389,696 | 2,301,985 |
| ACCUMULATED DEPRECIATION | | | |
| HYDROELECTRIC GEN | 617,032 | 646,988 | 632,010 |
| TRANSMISSION | 20,969 | 21,706 | 21,338 |
| TOTAL ACCUM DEPRECIATION | 638,001 | 668,694 | 653,348 |
| NET COMPLETED PLANT | | | |
| HYDROELECTRIC GEN | 1,541,955 | 1,687,421 | 1,614,688 |
| TRANSMISSION | 34,318 | 33,581 | 33,949 |
| TOTAL NET COMPLETED PLANT | 1,576,273 | 1,721,002 | 1,648,637 |
| **CONSERVATION** | | | |
| CUMULATIVE INVESTMENT | 471,185 | 394,592 | 432,889 |
| ACCUM PREPAID EXPENSE | 339,421 | 269,638 | 304,530 |
| NET CONSERVATION | 131,764 | 124,954 | 128,359 |
| **FISH AND WILDLIFE** | | | |
| CUMULATIVE INVESTMENT | 457,222 | 492,474 | 474,848 |
| ACCUM PREPAID EXPENSE | 153,783 | 170,397 | 162,090 |
| NET FISH AND WILDLIFE | 303,439 | 322,077 | 312,758 |
| **BPA PLANT (PBL)** | | | |
| CUMULATIVE INVESTMENT | 145,184 | 160,984 | 153,084 |
| ACCUMULATED DEPRECIATION | 134,224 | 151,565 | 142,895 |
| NET BPA PLANT INVESTMENT | 10,960 | 9,419 | 10,189 |
| **TOTAL NET PLANT INVESTMENT** | 6,329,104 | 6,457,514 | 6,393,308 |

# Table 4F

## FCRPS Investment Base

**FY 2015**

**($000s)**

| | | BALANCE-AS-OF 9/30/2014 | 9/30/2015 | AVERAGE 2015 |
|---|---|---|---|---|
| CORPS OF ENGINEERS | | | | |
| COMPLETED PLANT | | | | |
| | HYDROELECTRIC GEN | 7,025,573 | 7,079,073 | 7,052,323 |
| | GEN INTEGRATION | 3,000 | 3,000 | 3,000 |
| TOTAL COMPLETED PLANT | | 7,028,573 | 7,082,073 | 7,055,323 |
| ACCUMULATED DEPRECIATION | | | | |
| | HYDROELECTRIC GEN | 2,747,911 | 2,841,584 | 2,794,748 |
| | GEN INTEGRATION | 600 | 640 | 620 |
| TOTAL ACCUMULATED DEPRECIATION | | 2,748,511 | 2,842,224 | 2,795,368 |
| NET COMPLETED PLANT | | | | |
| | HYDROELECTRIC GEN | 4,277,662 | 4,237,489 | 4,257,575 |
| | GEN INTEGRATION | 2,400 | 2,360 | 2,380 |
| TOTAL NET COMPLETED PLANT | | 4,280,062 | 4,239,849 | 4,259,955 |
| BUREAU OF RECLAMATION | | | | |
| COMPLETED PLANT | | | | |
| | HYDROELECTRIC GEN | 2,334,409 | 2,350,100 | 2,342,255 |
| | GEN INTEGRATION | 55,287 | 55,287 | 55,287 |
| TOTAL COMPLETED PLANT | | 2,389,696 | 2,405,387 | 2,397,542 |
| ACCUMULATED DEPRECIATION | | | | |
| | HYDROELECTRIC GEN | 646,988 | 678,218 | 662,603 |
| | GEN INTEGRATION | 21,706 | 22,443 | 22,075 |
| TOTAL ACCUM DEPRECIATION | | 668,694 | 700,661 | 684,678 |
| NET COMPLETED PLANT | | | | |
| | HYDROELECTRIC GEN | 1,687,421 | 1,671,882 | 1,679,652 |
| | GEN INTEGRATION | 33,581 | 32,844 | 33,212 |
| TOTAL NET COMPLETED PLANT | | 1,721,002 | 1,704,726 | 1,712,864 |
| CONSERVATION | | | | |
| | CUMULATIVE INVESTMENT | 394,592 | 349,364 | 371,978 |
| | ACCUM PREPAID EXPENSE | 269,638 | 231,099 | 250,369 |
| | NET CONSERVATION | 124,954 | 118,265 | 121,609 |
| FISH AND WILDLIFE | | | | |
| | CUMULATIVE INVESTMENT | 492,474 | 528,576 | 510,525 |
| | ACCUM PREPAID EXPENSE | 170,397 | 190,421 | 180,409 |
| | NET FISH AND WILDLIFE | 322,077 | 338,155 | 330,116 |
| BPA PLANT (PBL) | | | | |
| | CUMULATIVE INVESTMENT | 160,984 | 176,084 | 168,534 |
| | ACCUMULATED DEPRECIATIO | 151,565 | 170,507 | 161,036 |
| | NET BPA PLANT INVESTMENT | 9,419 | 5,577 | 7,498 |
| TOTAL NET PLANT INVESTMENT | | 6,457,514 | 6,406,572 | 6,432,042 |

## Power General Plant Investments (Including Corporate Allocation)
## ($000s)

### Table 4G

**FERC ACCOUNT 391.1 OFFICE FURNITURE AND FIXTURES**

**ASL, Remaining Life, Annual Percent=5.18%** **9.9% as of FY 2006**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL DEPR | ACCUM DEPR | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | | - | - | 107 | 1,210 | 2,137 | 927 |
| 2010 | | - | - | 107 | 1,317 | 2,137 | 820 |
| 2011 | | - | - | 107 | 1,424 | 2,137 | 713 |
| 2012 | | - | - | 107 | 1,531 | 2,137 | 606 |
| 2013 | | - | - | 107 | 1,638 | 2,137 | 499 |
| 2014 | | - | - | 107 | 1,745 | 2,137 | 392 |
| 2015 | | - | - | 107 | 1,852 | 2,137 | 285 |

### Table 4H

**FERC ACCOUNT 391.2 DATA PROCESSING EQUIPMENT**

**ASL, Remaining Life, Annual Percent=20%** **18.07% as of FY 2006**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL DEPR | ACCUM DEPR | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | | - | - | 2,484 | 13,501 | 15,371 | 1,870 |
| 2010 | | - | - | 1,870 | 15,371 | 15,371 | - |
| 2011 | | - | - | - | 15,371 | 15,371 | - |
| 2012 | | - | - | - | 15,371 | 15,371 | - |
| 2013 | | - | - | - | 15,371 | 15,371 | - |
| 2014 | | - | - | - | 15,371 | 15,371 | - |
| 2015 | | - | - | - | 15,371 | 15,371 | - |

# Power General Plant Investments (Including Corporate Allocation)
# ($000s)

## Table 4I

**FERC ACCOUNT 391.3 DATA PROCESSING SOFTWARE**
**18.33% as of FY 2006**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL DEPR | ACCUM DEPR | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | 17,700 | 1,622 | 3,244 | 15,589 | 52,071 | 68,059 | 15,988 |
| 2010 | 12,000 | 1,100 | 2,200 | 15,797 | 67,868 | 80,059 | 12,191 |
| 2011 | 12,880 | 1,181 | 2,361 | 15,856 | 83,724 | 92,939 | 9,215 |
| 2012 | 15,530 | 1,424 | 2,847 | 15,946 | 99,670 | 108,469 | 8,799 |
| 2013 | 15,590 | 1,429 | 2,858 | 15,413 | 115,083 | 124,059 | 8,976 |
| 2014 | 15,800 | 1,448 | 2,896 | 16,985 | 132,068 | 139,859 | 7,791 |
| 2015 | 15,100 | 1,384 | 2,768 | 18,586 | 150,654 | 154,959 | 4,305 |

## Table 4J

**FERC ACCOUNT 397 COMMUNICATION EQUIPMENT**
**ASL, Remaining Life, Annual Percent=6.02%**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL DEPR | ACCUM DEPR | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | | 0 | 0 | 249 | 1,136 | 3,617 | 2,481 |
| 2010 | | 0 | 0 | 249 | 1,385 | 3,617 | 2,232 |
| 2011 | | 0 | 0 | 249 | 1,634 | 3,617 | 1,983 |
| 2012 | | 0 | 0 | 249 | 1,883 | 3,617 | 1,734 |
| 2013 | | 0 | 0 | 249 | 2,132 | 3,617 | 1,485 |
| 2014 | | 0 | 0 | 249 | 2,381 | 3,617 | 1,236 |
| 2015 | | - | 0 | 249 | 2,630 | 3,617 | 987 |

## Table 4K

**SUMMARY - PBL GENERAL PLANT**

| FY | ANNUAL DEPR | ACCUM DEPR | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|
| 2009 | 18,429 | 67,918 | 89,184 | 21,266 |
| 2010 | 18,023 | 85,941 | 101,184 | 15,243 |
| 2011 | 16,212 | 102,153 | 114,064 | 11,911 |
| 2012 | 16,302 | 118,455 | 129,594 | 11,139 |
| 2013 | 15,769 | 134,224 | 145,184 | 10,960 |
| 2014 | 17,341 | 151,565 | 160,984 | 9,419 |
| 2015 | 18,942 | 170,507 | 176,084 | 5,577 |

**Table 4L**

**BPA FISH & WILDLIFE INVESTMENT**
**($000s)**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL AMORT | ACCUM AMORT | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | 50,000 | 1,667 | 3,333 | 21,565 | 154,763 | 335,813 | 181,050 |
| 2010 | 70,000 | 2,333 | 4,667 | 23,904 | 146,181 | 373,327 | 227,146 |
| 2011 | 60,000 | 2,000 | 4,000 | 26,485 | 146,620 | 407,281 | 260,661 |
| 2012 | 50,000 | 1,667 | 3,333 | 27,725 | 146,281 | 429,217 | 282,936 |
| 2013 | 50,000 | 1,667 | 3,333 | 29,497 | 153,783 | 457,222 | 303,439 |
| 2014 | 50,000 | 1,667 | 3,333 | 31,362 | 170,397 | 492,474 | 322,077 |
| 2015 | 50,000 | 1,667 | 3,333 | 33,922 | 190,421 | 528,576 | 338,155 |

**Table 4M**

**BPA LEGACY CONSERVATION INVESTMENT**
**($000s)**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL AMORT | ACCUM AMORT | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | | - | - | 27,283 | 403,636 | 514,299 | 110,663 |
| 2010 | | - | - | 25,289 | 394,830 | 480,204 | 85,374 |
| 2011 | | - | - | 23,439 | 372,555 | 434,490 | 61,935 |
| 2012 | | | | 20,948 | 331,352 | 372,339 | 40,987 |
| 2013 | | | | 17,408 | 252,043 | 275,622 | 23,579 |
| 2014 | | | | 13,930 | 150,943 | 160,592 | 9,649 |
| 2015 | | | | 9,649 | 88,164 | 88,164 | - |

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | Table 4N | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | BPA CONSERVATION AUGMENTATION INVESTMENT | | | | |
| 4 | | | | | ($000s) | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | FIRST | FULL | ANNUAL | ACCUM | CUMUL | NET |
| 8 | | FY | INVEST | YEAR | YEAR | AMORT | AMORT | INVEST | INVEST |
| 9 | | 2009 | - | - | - | 13,335 | 78,377 | 105,048 | 26,671 |
| 10 | | 2010 | - | - | - | 13,335 | 91,712 | 105,048 | 13,336 |
| 11 | | 2011 | - | - | - | 13,335 | 105,048 | 105,048 | 0 |
| 12 | | 2012 | - | - | - | - | - | - | - |
| 13 | | 2013 | - | - | - | - | - | - | - |
| 14 | | 2014 | - | - | - | - | - | - | - |
| 15 | | 2015 | - | - | - | - | - | - | - |
| 16 | | | | | | | | | |

**Table 4O**

**BPA CONSERVATION ACQUISITIONS INVESTMENT**
**($000s)**

| FY | INVEST | FIRST YEAR | FULL YEAR | ANNUAL AMORT | ACCUM AMORT | CUMUL INVEST | NET INVEST |
|---|---|---|---|---|---|---|---|
| 2009 | 20,000 | 2,000 | 4,000 | 4,981 | 7,436 | 34,902 | 27,466 |
| 2010 | 32,800 | 3,280 | 6,560 | 10,261 | 17,697 | 67,702 | 50,005 |
| 2011 | 39,600 | 3,960 | 7,920 | 17,501 | 35,198 | 107,302 | 72,104 |
| 2012 | 47,200 | 4,720 | 9,440 | 24,953 | 60,151 | 154,502 | 94,351 |
| 2013 | 47,200 | 4,720 | 9,440 | 33,366 | 87,378 | 195,563 | 108,185 |
| 2014 | 47,200 | 4,720 | 9,440 | 40,080 | 118,695 | 234,000 | 115,305 |
| 2015 | 47,200 | 4,720 | 9,440 | 44,240 | 142,935 | 261,200 | 118,265 |

# Table 4P

## Bureau of Reclamation: Investment and Depreciation
## ($000s)

| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | **ACCUM** | **INVESTMENT** | **2009** | **DEPR** | **ACCUM** | **INVESTMENT** | **2010** | **DEPR** | **ACCUM** | **INVESTMENT** | **2011** | **DEPR** |
| 4 | | **DEPR** | **9/30/08** | **ADDTNS** | **EXP** | **DEPR** | **9/30/09** | **ADDTNS** | **EXP** | **DEPR** | **9/30/10** | **ADDTNS** | **EXP** |
| 5 | **BOISE** | | | | | | | | | | | | |
| 6 | GENERATION | 8,664 | 29,127 | 225 | 390 | 9,054 | 29,352 | 345 | 394 | 9,448 | 29,697 | 295 | 398 |
| 7 | **COLUMBIA BASIN** | | | | | | | | | | | | |
| 8 | GENERATION | 406,114 | 1,293,126 | 35,656 | 17,479 | 423,593 | 1,328,782 | 3,142 | 17,738 | 441,331 | 1,331,924 | 10,686 | 17,830 |
| 9 | TRANSMISSION /DELIVERY | 16,232 | 51,684 | | 689 | 16,921 | 51,684 | | 689 | 17,610 | 51,684 | | 689 |
| 10 | TOTAL | 422,346 | 1,344,810 | 35,656 | 18,168 | 440,514 | 1,380,466 | 3,142 | 18,427 | 458,941 | 1,383,608 | 10,686 | 18,519 |
| 11 | **GREEN SPRINGS** | | | | | | | | | | | | |
| 12 | GENERATION | 8,299 | 10,821 | 100 | 145 | 8,444 | 10,921 | 75 | 146 | 8,590 | 10,996 | 4,285 | 175 |
| 13 | **HUNGRY HORSE** | | | | | | | | | | | | |
| 14 | GENERATION | 49,192 | 123,428 | 5,463 | 1,682 | 50,874 | 128,891 | 6,685 | 1,763 | 52,637 | 135,576 | 325 | 1,810 |
| 15 | TRANSMISSION /DELIVERY | 446 | 1,120 | | 15 | 461 | 1,120 | | 15 | 476 | 1,120 | | 15 |
| 16 | TOTAL | 49,638 | 124,548 | 5,463 | 1,697 | 51,335 | 130,011 | 6,685 | 1,778 | 53,113 | 136,696 | 325 | 1,825 |
| 17 | **MINIDOKA-PALISADES** | | | | | | | | | | | | |
| 18 | GENERATION | 27,173 | 111,401 | 275 | 1,487 | 28,660 | 111,676 | 100 | 1,490 | 30,150 | 111,776 | 100 | 1,491 |
| 19 | TRANSMISSION /DELIVERY | 606 | 2,483 | | 33 | 639 | 2,483 | | 33 | 672 | 2,483 | | 33 |
| 20 | TOTAL | 27,779 | 113,884 | 275 | 1,520 | 29,299 | 114,159 | 100 | 1,523 | 30,822 | 114,259 | 100 | 1,524 |
| 21 | **YAKIMA** | | | | | | | | | | | | |
| 22 | GENERATION | 3,324 | 8,151 | 2,364 | 124 | 3,448 | 10,515 | 3,079 | 161 | 3,609 | 13,594 | 125 | 182 |
| 23 | | | | | | | | | | | | | |
| 24 | TOTAL USBR | 520,050 | 1,631,341 | 44,083 | 22,044 | 542,094 | 1,675,424 | 13,426 | 22,429 | 564,523 | 1,688,850 | 15,816 | 22,623 |
| 25 | | | | | | | | | | | | | |
| 26 | GENERATION | 502,766 | 1,576,054 | | 21,307 | 524,073 | 1,620,137 | | 21,692 | 545,765 | 1,633,563 | | 21,886 |
| 27 | TRANSMISSION | 17,284 | 55,287 | | 737 | 18,021 | 55,287 | | 737 | 18,758 | 55,287 | | 737 |
| 28 | TOTAL | 520,050 | 1,631,341 | | 22,044 | 542,094 | 1,675,424 | | 22,429 | 564,523 | 1,688,850 | | 22,623 |

## Table 4P

### Bureau of Reclamation: Investment and Depreciation
### ($000s)

| | A | N | O | P | Q | R | S | T | U | V | W | X | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | ACCUM | INVESTMENT | 2012 | DEPR | ACCUM | INVESTMENT | 2013 | DEPR | ACCUM | INVESTMENT | 2014 | DEPR |
| 4 | | DEPR | 9/30/11 | ADDTNS | EXP | DEPR | 9/30/12 | ADDTNS | EXP | DEPR | 9/30/13 | ADDTNS | EXP |
| 5 | **BOISE** | | | | | | | | | | | | |
| 6 | GENERATION | 9,846 | 29,992 | 150,019 | 1,400 | 11,246 | 180,011 | 359,589 | 4,797 | 16,043 | 539,600 | 175,422 | 8,364 |
| 7 | **COLUMBIA BASIN** | | | | | | | | | | | | |
| 8 | GENERATION | 459,161 | 1,342,610 | | 17,901 | 477,062 | 1,342,610 | | 17,901 | 494,963 | 1,342,610 | | 17,901 |
| 9 | TRANSMISSION /DELIVERY | 18,299 | 51,684 | | 689 | 18,988 | 51,684 | | 689 | 19,677 | 51,684 | | 689 |
| 10 | TOTAL | 477,460 | 1,394,294 | - | 18,590 | 496,050 | 1,394,294 | - | 18,590 | 514,640 | 1,394,294 | - | 18,590 |
| 11 | **GREEN SPRINGS** | | | | | | | | | | | | |
| 12 | GENERATION | 8,765 | 15,281 | | 204 | 8,969 | 15,281 | | 204 | 9,173 | 15,281 | | 204 |
| 13 | **HUNGRY HORSE** | | | | | | | | | | | | |
| 14 | GENERATION | 54,447 | 135,901 | | 1,812 | 56,259 | 135,901 | | 1,812 | 58,071 | 135,901 | | 1,812 |
| 15 | TRANSMISSION /DELIVERY | 491 | 1,120 | | 15 | 506 | 1,120 | | 15 | 521 | 1,120 | | 15 |
| 16 | TOTAL | 54,938 | 137,021 | - | 1,827 | 56,765 | 137,021 | - | 1,827 | 58,592 | 137,021 | - | 1,827 |
| 17 | **MINIDOKA-PALISADES** | | | | | | | | | | | | |
| 18 | GENERATION | 31,641 | 111,876 | | 1,492 | 33,133 | 111,876 | | 1,492 | 34,625 | 111,876 | | 1,492 |
| 19 | TRANSMISSION /DELIVERY | 705 | 2,483 | | 33 | 738 | 2,483 | | 33 | 771 | 2,483 | | 33 |
| 20 | TOTAL | 32,346 | 114,359 | - | 1,525 | 33,871 | 114,359 | - | 1,525 | 35,396 | 114,359 | - | 1,525 |
| 21 | **YAKIMA** | | | | | | | | | | | | |
| 22 | GENERATION | 3,791 | 13,719 | | 183 | 3,974 | 13,719 | | 183 | 4,157 | 13,719 | | 183 |
| 23 | | | | | | | | | | | | | |
| 24 | TOTAL USBR | 587,146 | 1,704,666 | 150,019 | 23,729 | 610,875 | 1,854,685 | 359,589 | 27,126 | 638,001 | 2,214,274 | 175,422 | 30,693 |
| 25 | | | | | | | | | | | | | |
| 26 | GENERATION | 567,651 | 1,649,379 | | 22,992 | 590,643 | 1,799,398 | | 26,389 | 617,032 | 2,158,987 | | 29,956 |
| 27 | TRANSMISSION | 19,495 | 55,287 | | 737 | 20,232 | 55,287 | | 737 | 20,969 | 55,287 | | 737 |
| 28 | TOTAL | 587,146 | 1,704,666 | | 23,729 | 610,875 | 1,854,685 | | 27,126 | 638,001 | 2,214,274 | | 30,693 |

## Table 4P

### Bureau of Reclamation: Investment and Depreciation
### ($000s)

| | A | Z | AA | AB | AC | AD | AE |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | **ACCUM** | **INVESTMENT** | **2015** | **DEPR** | **ACCUM** | **INVESTMENT** |
| 4 | | **DEPR** | **9/30/14** | **ADDTNS** | **EXP** | **DEPR** | **9/30/15** |
| 5 | **BOISE** | | | | | | |
| 6 | GENERATION | 24,407 | 715,022 | 15,691 | 9,638 | 34,045 | 730,713 |
| 7 | **COLUMBIA BASIN** | | | | | | |
| 8 | GENERATION | 512,864 | 1,342,610 | | 17,901 | 530,765 | 1,342,610 |
| 9 | TRANSMISSION /DELIVERY | 20,366 | 51,684 | | 689 | 21,055 | 51,684 |
| 10 | TOTAL | 533,230 | 1,394,294 | - | 18,590 | 551,820 | 1,394,294 |
| 11 | **GREEN SPRINGS** | | | | | | |
| 12 | GENERATION | 9,377 | 15,281 | | 204 | 9,581 | 15,281 |
| 13 | **HUNGRY HORSE** | | | | | | |
| 14 | GENERATION | 59,883 | 135,901 | | 1,812 | 61,695 | 135,901 |
| 15 | TRANSMISSION /DELIVERY | 536 | 1,120 | | 15 | 551 | 1,120 |
| 16 | TOTAL | 60,419 | 137,021 | - | 1,827 | 62,246 | 137,021 |
| 17 | **MINIDOKA-PALISADES** | | | | | | |
| 18 | GENERATION | 36,117 | 111,876 | | 1,492 | 37,609 | 111,876 |
| 19 | TRANSMISSION /DELIVERY | 804 | 2,483 | | 33 | 837 | 2,483 |
| 20 | TOTAL | 36,921 | 114,359 | - | 1,525 | 38,446 | 114,359 |
| 21 | **YAKIMA** | | | | | | |
| 22 | GENERATION | 4,340 | 13,719 | | 183 | 4,523 | 13,719 |
| 23 | | | | | | | |
| 24 | TOTAL USBR | 668,694 | 2,389,696 | 15,691 | 31,967 | 700,661 | 2,405,387 |
| 25 | | | | | | | |
| 26 | GENERATION | 646,988 | 2,334,409 | | 31,230 | 678,218 | 2,350,100 |
| 27 | TRANSMISSION | 21,706 | 55,287 | | 737 | 22,443 | 55,287 |
| 28 | TOTAL | 668,694 | 2,389,696 | | 31,967 | 700,661 | 2,405,387 |

# Table 4Q

## Corps of Engineers: Investment and Depreciation
## ($000s)

| | ACCUM DEPR | INVESTMENT 9/30/08 | 2009 ADDTNS | DEPR EXP | ACCUM DEPR | INVESTMENT 9/30/09 | 2010 ADDTNS | DEPR EXP | ACCUM DEPR | INVESTMENT 9/30/10 | 2011 ADDTNS | DEPR EXP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BONNEVILLE | | | | | | | | | | | | |
| GENERATION | 362,197 | 1,020,693 | 14,202 | 13,704 | 375,901 | 1,034,895 | 9,926 | 13,865 | 389,766 | 1,044,821 | 60,865 | 14,337 |
| TRANSMISSION | 360 | 3,000 | | 40 | 400 | 3,000 | | 40 | 440 | 3,000 | | 40 |
| TOTAL | 362,557 | 1,023,693 | | 13,744 | 376,301 | 1,037,895 | | 13,905 | 390,206 | 1,047,821 | | 14,377 |
| OTHER PROJECTS | | | | | | | | | | | | |
| (GENERATION ONLY) | | | | | | | | | | | | |
| ALBENI FALLS | 21,776 | 43,453 | 6,729 | 624 | 22,400 | 50,182 | 2,926 | 689 | 23,089 | 53,108 | 222 | 710 |
| CHIEF JOSEPH | 279,913 | 576,972 | 3,814 | 7,718 | 287,631 | 580,786 | 5,059 | 7,778 | 295,409 | 585,845 | 7,919 | 7,864 |
| COUGAR | 11,060 | 82,291 | 1,654 | 1,108 | 12,168 | 83,945 | 166 | 1,120 | 13,288 | 84,111 | 366 | 1,124 |
| DETROIT-BIG CLIFF | 26,552 | 51,041 | 14,498 | 777 | 27,329 | 65,539 | 11,399 | 950 | 28,279 | 76,938 | 186 | 1,027 |
| DWORSHAK | 110,607 | 295,982 | 3,617 | 3,971 | 114,578 | 299,599 | 6,104 | 4,035 | 118,613 | 305,703 | 289 | 4,078 |
| GREEN PETER-FOSTER | 23,177 | 55,658 | 2,937 | 762 | 23,939 | 58,595 | 729 | 786 | 24,725 | 59,324 | 335 | 793 |
| HILLS CREEK | 11,410 | 20,686 | 547 | 279 | 11,689 | 21,233 | 759 | 288 | 11,977 | 21,992 | 132 | 294 |
| ICE HARBOR | 76,896 | 168,667 | 2,811 | 2,268 | 79,164 | 171,478 | 1,281 | 2,295 | 81,459 | 172,759 | 7,241 | 2,352 |
| JOHN DAY | 216,736 | 509,308 | 2,256 | 6,806 | 223,542 | 511,564 | 3,420 | 6,844 | 230,386 | 514,984 | 2,120 | 6,881 |
| LIBBY | 151,745 | 436,072 | 1,161 | 5,822 | 157,567 | 437,233 | 2,199 | 5,844 | 163,411 | 439,432 | 207 | 5,860 |
| LITTLE GOOSE | 99,028 | 220,314 | 1,415 | 2,947 | 101,975 | 221,729 | 2,386 | 2,972 | 104,947 | 224,115 | 643 | 2,992 |
| LOOKOUT POINT-DEXTER | 41,710 | 61,216 | 8,081 | 870 | 42,580 | 69,297 | 210 | 925 | 43,505 | 69,507 | 477 | 930 |
| LOST CREEK | 11,312 | 28,543 | 156 | 382 | 11,694 | 28,699 | 161 | 384 | 12,078 | 28,860 | 167 | 386 |
| LOWER GRANITE | 133,715 | 345,033 | 6,695 | 4,645 | 138,360 | 351,728 | 13,381 | 4,779 | 143,139 | 365,109 | 903 | 4,874 |
| LOWER MONUMENTAL | 108,170 | 243,135 | 11,368 | 3,318 | 111,488 | 254,503 | 2,534 | 3,410 | 114,898 | 257,037 | 683 | 3,432 |
| MCNARY | 191,829 | 345,718 | 35,621 | 4,847 | 196,676 | 381,339 | 6,699 | 5,129 | 201,805 | 388,038 | 1,411 | 5,183 |
| THE DALLES | 193,191 | 365,169 | 12,146 | 4,950 | 198,141 | 377,315 | 50,496 | 5,368 | 203,509 | 427,811 | 4,351 | 5,733 |
| LOWER SNAKE F&W | 40,027 | 255,832 | | 3,411 | 43,438 | 255,832 | | 3,411 | 46,849 | 255,832 | | 3,411 |
| COLUMBIA R. FISH BYPASS | 111,979 | 861,606 | 166,473 | 11,488 | 123,467 | 1,028,079 | 101,454 | 13,708 | 137,175 | 1,129,533 | 100,066 | 15,060 |
| TOTAL OTHER | 1,860,833 | 4,966,696 | 281,979 | 66,993 | 1,927,826 | 5,248,675 | 211,363 | 70,715 | 1,998,541 | 5,460,038 | 127,718 | 72,984 |
| | | | | | | | | | | | | |
| TOTAL CORPS | 2,223,390 | 5,990,389 | 281,979 | 80,737 | 2,304,127 | 6,286,570 | 211,363 | 84,620 | 2,388,747 | 6,507,859 | 127,718 | 87,361 |
| | | | | | | | | | | | | |
| GENERATION | 2,223,030 | 5,987,389 | | 80,697 | 2,303,727 | 6,283,570 | | 84,580 | 2,388,307 | 6,504,859 | | 87,321 |
| TRANSMISSION | 360 | 3,000 | | 40 | 400 | 3,000 | | 40 | 440 | 3,000 | | 40 |
| TOTAL | 2,223,390 | 5,990,389 | | 80,737 | 2,304,127 | 6,286,570 | | 84,620 | 2,388,747 | 6,507,859 | | 87,361 |
| | | | | | | | | | | | | |
| 1/ Includes FAS 71 Intangible Ass | 4,955 | 370,332 | | 4,938 | 9,893 | 370,332 | | 4,938 | 14,831 | 370,332 | | 4,938 |
| | | | | | | | | | | | | |
| | **Acc Dep** | **Gross Plant** | **Net Plant** | | **Acc Dep** | **Gross Plant** | **Net Plant** | | **Acc Dep** | **Gross Plant** | **Net Plant** | |
| COE portion of Big 10 | 1,661,675 | 3,795,009 | 2,133,334 | | 1,712,878 | 3,885,337 | 2,172,459 | | 1,765,318 | 3,980,519 | 2,215,201 | |
| F&W portion | 152,006 | 1,117,438 | 965,432 | | 166,905 | 1,283,911 | 1,117,006 | | 184,024 | 1,385,365 | 1,201,341 | |

# Table 4Q

## Corps of Engineers: Investment and Depreciation
## ($000s)

| | A | B | O | P | Q | R | S | T | U | V | W | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | | | ACCUM | INVESTMENT | 2012 | DEPR | ACCUM | INVESTMENT | 2013 | DEPR | ACCUM | INVESTMENT | 2014 | DEPR |
| 5 | | | DEPR | 9/30/11 | ADDTNS | EXP | DEPR | 9/30/12 | ADDTNS | EXP | DEPR | 9/30/13 | ADDTNS | EXP |
| 6 | | BONNEVILLE | | | | | | | | | | | | |
| 7 | | GENERATION | 404,103 | 1,105,686 | | 14,742 | 418,845 | 1,105,686 | | 14,742 | 433,587 | 1,105,686 | | 14,742 |
| 8 | | TRANSMISSION | 480 | 3,000 | | 40 | 520 | 3,000 | | 40 | 560 | 3,000 | | 40 |
| 9 | | TOTAL | 404,583 | 1,108,686 | | 14,782 | 419,365 | 1,108,686 | | 14,782 | 434,147 | 1,108,686 | | 14,782 |
| 10 | | OTHER PROJECTS | | | | | | | | | | | | |
| 11 | | (GENERATION ONLY) | | | | | | | | | | | | |
| 12 | | ALBENI FALLS | 23,799 | 53,330 | | 711 | 24,510 | 53,330 | | 711 | 25,221 | 53,330 | | 711 |
| 13 | | CHIEF JOSEPH | 303,273 | 593,764 | | 7,917 | 311,190 | 593,764 | | 7,917 | 319,107 | 593,764 | | 7,917 |
| 14 | | COUGAR | 14,412 | 84,477 | | 1,126 | 15,538 | 84,477 | | 1,126 | 16,664 | 84,477 | | 1,126 |
| 15 | | DETROIT-BIG CLIFF | 29,306 | 77,124 | | 1,028 | 30,334 | 77,124 | | 1,028 | 31,362 | 77,124 | | 1,028 |
| 16 | | DWORSHAK | 122,691 | 305,992 | | 4,080 | 126,771 | 305,992 | | 4,080 | 130,851 | 305,992 | | 4,080 |
| 17 | | GREEN PETER-FOSTER | 25,518 | 59,659 | | 795 | 26,313 | 59,659 | | 795 | 27,108 | 59,659 | | 795 |
| 18 | | HILLS CREEK | 12,271 | 22,124 | | 295 | 12,566 | 22,124 | | 295 | 12,861 | 22,124 | | 295 |
| 19 | | ICE HARBOR | 83,811 | 180,000 | | 2,400 | 86,211 | 180,000 | | 2,400 | 88,611 | 180,000 | | 2,400 |
| 20 | | JOHN DAY | 237,267 | 517,104 | | 6,895 | 244,162 | 517,104 | | 6,895 | 251,057 | 517,104 | | 6,895 |
| 21 | | LIBBY | 169,271 | 439,639 | | 5,862 | 175,133 | 439,639 | | 5,862 | 180,995 | 439,639 | | 5,862 |
| 22 | | LITTLE GOOSE | 107,939 | 224,758 | | 2,997 | 110,936 | 224,758 | | 2,997 | 113,933 | 224,758 | | 2,997 |
| 23 | | LOOKOUT POINT-DEXTER | 44,435 | 69,984 | | 933 | 45,368 | 69,984 | | 933 | 46,301 | 69,984 | | 933 |
| 24 | | LOST CREEK | 12,464 | 29,027 | | 387 | 12,851 | 29,027 | | 387 | 13,238 | 29,027 | | 387 |
| 25 | | LOWER GRANITE | 148,013 | 366,012 | | 4,880 | 152,893 | 366,012 | | 4,880 | 157,773 | 366,012 | | 4,880 |
| 26 | | LOWER MONUMENTAL | 118,330 | 257,720 | | 3,436 | 121,766 | 257,720 | | 3,436 | 125,202 | 257,720 | | 3,436 |
| 27 | | MCNARY | 206,988 | 389,449 | | 5,193 | 212,181 | 389,449 | | 5,193 | 217,374 | 389,449 | | 5,193 |
| 28 | | THE DALLES | 209,242 | 432,162 | | 5,762 | 215,004 | 432,162 | | 5,762 | 220,766 | 432,162 | | 5,762 |
| 29 | | LOWER SNAKE F&W | 50,260 | 255,832 | | 3,411 | 53,671 | 255,832 | | 3,411 | 57,082 | 255,832 | | 3,411 |
| 30 | | COLUMBIA R. FISH BYPASS | 152,235 | 1,229,599 | 75,264 | 16,395 | 168,630 | 1,304,863 | 190,643 | 17,398 | 186,028 | 1,495,506 | 66,224 | 19,940 |
| 31 | | TOTAL OTHER | 2,071,525 | 5,587,756 | 75,264 | 74,503 | 2,146,028 | 5,663,020 | 190,643 | 75,506 | 2,221,534 | 5,853,663 | 66,224 | 78,048 |
| 32 | | | | | | | | | | | | | | |
| 33 | | TOTAL CORPS | 2,476,108 | 6,696,442 | 75,264 | 89,285 | 2,565,393 | 6,771,706 | 190,643 | 90,288 | 2,655,681 | 6,962,349 | 66,224 | 92,830 |
| 34 | | | | | | | | | | | | | | |
| 35 | | GENERATION | 2,475,628 | 6,693,442 | | 89,245 | 2,564,873 | 6,768,706 | | 90,248 | 2,655,121 | 6,959,349 | | 92,790 |
| 36 | | TRANSMISSION | 480 | 3,000 | | 40 | 520 | 3,000 | | 40 | 560 | 3,000 | | 40 |
| 37 | | TOTAL | 2,476,108 | 6,696,442 | | 89,285 | 2,565,393 | 6,771,706 | | 90,288 | 2,655,681 | 6,962,349 | | 92,830 |
| 38 | | | | | | | | | | | | | | |
| 39 | | 1/ Includes FAS 71 Intangible Ass | 19,769 | 370,332 | | 4,938 | 24,707 | 370,332 | | 4,938 | 29,645 | 370,332 | | 4,938 |
| 40 | | | | | | | | | | | | | | |
| 41 | | | Acc Dep | Gross Plant | Net Plant | | Acc Dep | Gross Plant | Net Plant | | Acc Dep | Gross Plant | Net Plant | |
| 42 | | COE portion of Big 10 | 1,818,966 | 4,066,655 | 2,247,689 | | 1,873,188 | 4,066,655 | 2,193,467 | | 1,927,410 | 4,066,655 | 2,139,245 | |
| 43 | | F&W portion | 202,495 | 1,485,431 | 1,282,936 | | 222,301 | 1,560,695 | 1,338,394 | | 243,110 | 1,751,338 | 1,508,228 | |

## Table 4Q

### Corps of Engineers: Investment and Depreciation
### ($000s)

| | A | B | AA | AB | AC | AD | AE | AF | AG |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | **ACCUM** | **INVESTMENT** | **2015** | **DEPR** | **ACCUM** | **INVESTMENT** | |
| 5 | | | **DEPR** | **9/30/14** | **ADDTNS** | **EXP** | **DEPR** | **9/30/15** | |
| 6 | | BONNEVILLE | | | | | | | |
| 7 | | GENERATION | 448,329 | 1,105,686 | | 14,742 | 463,071 | 1,105,686 | |
| 8 | | TRANSMISSION | 600 | 3,000 | | 40 | 640 | 3,000 | |
| 9 | | TOTAL | 448,929 | 1,108,686 | | 14,782 | 463,711 | 1,108,686 | |
| 10 | | OTHER PROJECTS | | | | | | | |
| 11 | | (GENERATION ONLY) | | | | | | | |
| 12 | | ALBENI FALLS | 25,932 | 53,330 | | 711 | 26,643 | 53,330 | |
| 13 | | CHIEF JOSEPH | 327,024 | 593,764 | | 7,917 | 334,941 | 593,764 | |
| 14 | | COUGAR | 17,790 | 84,477 | | 1,126 | 18,916 | 84,477 | |
| 15 | | DETROIT-BIG CLIFF | 32,390 | 77,124 | | 1,028 | 33,418 | 77,124 | |
| 16 | | DWORSHAK | 134,931 | 305,992 | | 4,080 | 139,011 | 305,992 | |
| 17 | | GREEN PETER-FOSTER | 27,903 | 59,659 | | 795 | 28,698 | 59,659 | |
| 18 | | HILLS CREEK | 13,156 | 22,124 | | 295 | 13,451 | 22,124 | |
| 19 | | ICE HARBOR | 91,011 | 180,000 | | 2,400 | 93,411 | 180,000 | |
| 20 | | JOHN DAY | 257,952 | 517,104 | | 6,895 | 264,847 | 517,104 | |
| 21 | | LIBBY | 186,857 | 439,639 | | 5,862 | 192,719 | 439,639 | |
| 22 | | LITTLE GOOSE | 116,930 | 224,758 | | 2,997 | 119,927 | 224,758 | |
| 23 | | LOOKOUT POINT-DEXTER | 47,234 | 69,984 | | 933 | 48,167 | 69,984 | |
| 24 | | LOST CREEK | 13,625 | 29,027 | | 387 | 14,012 | 29,027 | |
| 25 | | LOWER GRANITE | 162,653 | 366,012 | | 4,880 | 167,533 | 366,012 | |
| 26 | | LOWER MONUMENTAL | 128,638 | 257,720 | | 3,436 | 132,074 | 257,720 | |
| 27 | | MCNARY | 222,567 | 389,449 | | 5,193 | 227,760 | 389,449 | |
| 28 | | THE DALLES | 226,528 | 432,162 | | 5,762 | 232,290 | 432,162 | |
| 29 | | LOWER SNAKE F&W | 60,493 | 255,832 | | 3,411 | 63,904 | 255,832 | |
| 30 | | COLUMBIA R. FISH BYPASS | 205,968 | 1,561,730 | 53,500 | 20,823 | 226,791 | 1,615,230 | |
| 31 | | TOTAL OTHER | 2,299,582 | 5,919,887 | 53,500 | 78,931 | 2,378,513 | 5,973,387 | |
| 32 | | | | | | | | | |
| 33 | | TOTAL CORPS | 2,748,511 | 7,028,573 | 53,500 | 93,713 | 2,842,224 | 7,082,073 | |
| 34 | | | | | | | | | |
| 35 | | GENERATION | 2,747,911 | 7,025,573 | | 93,673 | 2,841,584 | 7,079,073 | |
| 36 | | TRANSMISSION | 600 | 3,000 | | 40 | 640 | 3,000 | |
| 37 | | TOTAL | 2,748,511 | 7,028,573 | | 93,713 | 2,842,224 | 7,082,073 | |
| 38 | | | | | | | | | |
| 39 | | 1/ Includes FAS 71 Intangible Ass | 34,583 | 370,332 | | 4,938 | 39,521 | 370,332 | |
| 40 | | | | | | | | | |
| 41 | | | **Acc Dep** | **Gross Plant** | **Net Plant** | | **Acc Dep** | **Gross Plant** | **Net Plant** |
| 42 | | COE portion of Big 10 | 1,981,632 | 4,066,655 | 2,085,023 | | 2,035,854 | 4,066,655 | 2,030,801 |
| 43 | | F&W portion | 266,461 | 1,817,562 | 1,551,101 | | 290,695 | 1,871,062 | 1,580,367 |

# 5. PROJECTED CASH BALANCES / INTEREST CREDITS

## 5.1 Introduction

This chapter documents the projection of the generation interest income (credited to interest expense) to be earned during the rate approval period and the outyears on BPA's projected cash balances and on funds attributable to generation to be returned to Treasury at year-end.

## 5.2 Interest credits on projected cash balances

The ToolKit model provides the annual cash balances for the rate approval period. In the outyears, the internal cash flows from revenue requirements are added to the ending rate period cash balances separately for the program and 7(b)(2) cases and averaged. The projected interest earnings rate, the projected weighted average interest rate on outstanding bonds from the end of the previous year, is multiplied by the average cash balance to determine the annual interest income. The resulting interest income is applied as a credit against interest expense in the generation revenue requirements.

## 5.3 Interest income (repayment program calculation)

The interest income rates listed in this chapter are calculated and used in repayment studies to determine an interest income credit on funds collected during each year for year-end payment of amortization and interest on COE and Reclamation appropriations and bonds BPA issued to Treasury. The repayment program assumes that cash accumulates at a uniform rate throughout the year, except for interest paid on bonds issued to Treasury at mid-year.

## TABLE 5A

### Interest Income from Projected Cash Balances
### Generation Revenue Requirement
### ($000s)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Annual Cash Surplus/(Deficit) | - | - | 12,803 | - | 26,228 | 7,121 |
| | | | | | | |
| SOY Cash Balance 1/ | 659,278 | 659,278 | 659,278 | 672,081 | 672,081 | 698,309 |
| EOY Cash Balance | 659,278 | 659,278 | 672,081 | 672,081 | 698,309 | 705,430 |
| Average Cash Balance | 659,278 | 659,278 | 665,680 | 672,081 | 685,195 | 701,870 |
| | | | | | | |
| Interest Income Rate | 4.70% | 4.70% | 4.70% | 4.70% | 4.70% | 4.70% |
| | | | | | | |
| Repayment Study Interest Income | 10,046 | 10,037 | 9,007 | 10,416 | 9,770 | 10,529 |
| | | | | | | |
| Annual Interest Income | 41,032 | 41,023 | 40,294 | 42,004 | 41,974 | 43,517 |
| | | | | | | |
| 1/ Deferred Borrowing | 32,000 | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | **Table 5B** | | | |
| 2 | | | | | | |
| 3 | | | **Interest Income from Projected Cash Balances** | | | |
| 4 | | | **Generation Current Revenue Test** | | | |
| 5 | | | **($000s)** | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | **2009** | **2010** | **2011** |
| 9 | | | | | | |
| 10 | | Annual Cash Surplus/(Deficit) | | | (34,643) | (146,961) |
| 11 | | | | | | |
| 12 | | SOY Cash Balance | | | 659,278 | 624,635 |
| 13 | | EOY Cash Balance | | 659,278 | 624,635 | 477,674 |
| 14 | | Average Cash Balance | | | 641,957 | 551,155 |
| 15 | | | | | | |
| 16 | | Interest Income Rate | | | 4.70% | 4.70% |
| 17 | | | | | | |
| 18 | | Repayment Study Interest Income | | | 10,046 | 10,037 |
| 19 | | | | | | |
| 20 | | Annual Interest Income | | | 40,218 | 35,941 |
| 21 | | | | | | |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Table 5C** | | | | | |
| 2 | | | | | | |
| 3 | **Interest Income from Projected Cash Balances** | | | | | |
| 4 | **Generation Revised Revenue Test** | | | | | |
| 5 | **($000s)** | | | | | |
| 6 | | | | | | |
| 7 | | | | **2009** | **2010** | **2011** |
| 8 | | | | | | |
| 9 | | Annual Cash Surplus/(Deficit) | | | 17,263 | 2,186 |
| 10 | | | | | | |
| 11 | | SOY Cash Balance | | | 659,278 | 676,541 |
| 12 | | EOY Cash Balance | | 659,278 | 676,541 | 678,727 |
| 13 | | Average Cash Balance | | | 667,909 | 677,634 |
| 14 | | | | | | |
| 15 | | Interest Income Rate | | | 4.70% | 4.70% |
| 16 | | | | | | |
| 17 | | Repayment Study Interest Income | | | 11,010 | 9,003 |
| 18 | | | | | | |
| 19 | | Annual Interest Income | | | 42,402 | 40,852 |
| 20 | | | | | | |

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | **Table 5D** | | | | | | |
| 2 | | | | | | | | |
| 3 | | **Interest Income from Projected Cash Balances** | | | | | | |
| 4 | | **7(b)(2) Generation Revenue Requirement** | | | | | | |
| 5 | | **($000s)** | | | | | | |
| 6 | | | | | | | | |
| 7 | | | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| 8 | | Annual Cash Surplus/(Deficit) | - | - | 831 | - | 8,984 | - |
| 9 | | | | | | | | |
| 10 | | SOY Cash Balance | 659,278 | 659,278 | 659,278 | 660,109 | 660,109 | 669,093 |
| 11 | | EOY Cash Balance | 659,278 | 659,278 | 660,109 | 660,109 | 669,093 | 669,093 |
| 12 | | Average Cash Balance | 659,278 | 659,278 | 659,694 | 660,109 | 664,601 | 669,093 |
| 13 | | | | | | | | |
| 14 | | Interest Income Rate | 4.70% | 4.70% | 4.70% | 4.70% | 4.70% | 4.70% |
| 15 | | | | | | | | |
| 16 | | Repayment Study Interest Income | 9,702 | 9,705 | 7,961 | 9,298 | 8,619 | 9,232 |
| 17 | | | | | | | | |
| 18 | | Annual Interest Income | 40,688 | 40,691 | 38,967 | 40,323 | 39,855 | 40,679 |
| 19 | | | | | | | | |

## 6. INTEREST RATES FOR TREASURY SOURCES OF CAPITAL AND PRICE DEFLATORS

### 6.1 Introduction

Interest rates on bonds issued by BPA to Treasury and interest rates for COE and Reclamation appropriations 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.

### 6.2 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.

### 6.3 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 up 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 220 and 200 basis points respectively.

Interest rates on projected capital investments funded by appropriations are also based on GI's projections of Treasury yield curves. The yield curves used for appropriations do not include the basis point markup.

### 6.4 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:

$[(FY_1/100) \times 0.5] + 1 = \text{Cumulative Price Deflator}_1$

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

$[1 + (FY_t/100)] \times \text{Cumulative Price Deflator}_{t-1} = \text{Cumulative Price Deflator}_t$, 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 Fourth Quarter 2008 GI forecast.

**United States Government** **Department of Energy**

# memorandum

**Bonneville Power Administration**

DATE: June 10, 2009

REPLY TO ATTN OF: FTC-2

SUBJECT: FY 2009 (Revised June 2009) Common Agency Assumptions

TO: See attached cc list:

Please see the attached BPA borrowing rate and inflation assumptions for the period FY 2009 through 2039.

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 June Revised FY 2009 forecast is summarized in the following tables:

- Table 1: 30-year Treasury Borrowing Rate
- Table 2: 30-year Rate Comparison (FY 2009-June Revised vs. 2009 Forecasts)
- Table 3: 20-year Treasury Borrowing Rate
- Table 4: 15-year Treasury Borrowing Rate
- Table 5: Appropriation Term Rates
- Table 6: BPA Treasury Term Rates
- Table 7: Third-party taxable Term Rates
- Table 8: Third-party tax-exempt Term Rates
- 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

BPA's 30-year Treasury borrowing rate is projected to be 55 bp less than the 2009 forecast in 2010. The revised inflation rate projection is 0.56 percent lower than the FY 2009 forecast in 2010.

## Borrowing Rate Forecast Methodology

The FY 2009 June Revised forecast is based on the Global Insight (GI) Fourth Quarter November 2008 Long-Term Economic Outlook.

Table 1 illustrates the components of BPA's Treasury borrowing rate forecast. 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.

BPA borrowing rates from the U.S. Treasury reflect 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 where appropriate, an adder for call options embedded in BPA Treasury borrowings.

In FY 2009.Q1 the Treasury borrowing rate spread over U.S. Treasury securities widened to historically unprecedented levels with the implosion of Wall Street and financial markets, and the contagion that rapidly spilled over into the banking system to imperil the U.S. economy. This crisis was reflected in a higher near-term trajectory for Treasury borrowing rates. Agency spreads exploded between October-December 2008, and have remained at historically wide margins as the financial health of major segments of the U.S. economy have continued to deteriorate. With a protracted economic recovery and gradual normalization of financial markets, BPA borrowing rates in the near-term reflect a progressive decline in spreads.

## BPA Borrowing Forecasts

The FY 2009 June Revised forecast begins in an environment of financial crisis. The major uncertainty surrounding BPA borrowing rate projections centers on the recession's severity and duration.

The FY 2009 June Revised outlook suggests that BPA borrowing rates will decrease in the near term, before rising to a long-term equilibrium equivalent to the FY 2009 forecast. Short-term borrowing rates in the FY 2009 June Revised forecast fall in FY 2010, but then rise significantly in 2011. Borrowing rates increase until they reach a long-term equilibrium level in 2013.

The borrowing rate on FCRPS Appropriations over a 2-year term is projected to increase 264 basis points (bp), from 2.21 percent in FY 2009 to 4.85 percent in 2012. The Appropriation borrowing rate over a 10-year term is projected to increase 171 bp from 3.65 percent to 5.36 percent in 2012. Note: Appropriation borrowing rates in FY 2009 are set by the U.S. Treasury at the beginning of the fiscal year and so do not reflect the full extent of decline reflected in other sources of financing.

By 2012, the 10-year rate on BPA's Treasury borrowing is expected to increase 151 bp from 4.49 percent in FY 2009 to 6.00 percent. The Third-party taxable 10-year rate is expected to increase 216 bp from 4.44 percent to 6.60 percent in 2012, and the Third-party tax-exempt 10-year rate increases 163 bp from 3.21 percent to 4.84 percent. Beyond 2014, BPA borrowing rates reflect a long-term equilibrium rate.

This update includes borrowing based on the Prime rate and a short-term LIBOR. The Prime rate increases 360 bp over the next three years from 3.90 percent in FY 2009 to 7.50 percent in FY 2012. LIBOR rates are projected to increase 116 bp from 4.02 percent in FY 2009 to 5.18 percent in FY 2012.

## Inflation Forecast

BPA inflation assumptions reflect projected changes in the U.S. Gross Domestic Product (GDP) Price Deflator. 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.

This index assumes a base year of 2000. The projected change in the GDP price deflator and comparison with the FY 2009 inflation forecast is summarized in Table 11. Column A shows the projected trend in GDP inflation rates between 2009-2039 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.

The GI November 2008 Base Case forecast assumes inflation will remain subdued over the next 30 years. Slower growth and greater slack in the economy reduces inflationary pressures.

Inflationary pressures decline throughout the forecast period. Inflation slows to 1.93 percent annual rate in FY 2009 and 1.46 percent in FY 2010. The pace of inflation increases to 1.57 percent in FY 2011 and reaches a peak of 2.04 percent in FY 2015. With the exception of lower near-term, inflation in the 2009 June Revised forecast is approximately the same outlook as the 2009 forecast (See Table 11).

If you have questions, or suggestions concerning the FY 2009 June Revised 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
Attachment

cc:
See Front List
Official File – FTC (FI-21-12)

Table 1

## 30 YEAR TREASURY YIELDS

FY 2009 JUNE REVISED FORECAST - BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2039

| YEAR | (A) BOND RATE 1/ Calendar Year | (B) BOND RATE Fiscal Year | (C) BPA RATE 2/ Fiscal Year |
|---|---|---|---|
| 2009 | 4.08 | 4.13 | 6.33 |
| 2010 | 4.29 | 4.24 | 6.24 |
| 2011 | 5.48 | 5.18 | 7.03 |
| 2012 | 5.79 | 5.71 | 7.36 |
| 2013 | 5.79 | 5.79 | 7.29 |
| 2014 | 5.79 | 5.79 | 7.04 |
| 2015 | 5.79 | 5.79 | 6.89 |
| 2016 | 5.79 | 5.79 | 6.79 |
| 2017 | 5.79 | 5.79 | 6.79 |
| 2018 | 5.79 | 5.79 | 6.79 |
| 2019 | 5.79 | 5.79 | 6.79 |
| 2020 | 5.79 | 5.79 | 6.79 |
| 2021 | 5.79 | 5.79 | 6.79 |
| 2022 | 5.79 | 5.79 | 6.79 |
| 2023 | 5.79 | 5.79 | 6.79 |
| 2024 | 5.79 | 5.79 | 6.79 |
| 2025 | 5.79 | 5.79 | 6.79 |
| 2026 | 5.79 | 5.79 | 6.79 |
| 2027 | 5.79 | 5.79 | 6.79 |
| 2028 | 5.79 | 5.79 | 6.79 |
| 2029 | 5.79 | 5.79 | 6.79 |
| 2030 | 5.79 | 5.79 | 6.79 |
| 2031 | 5.79 | 5.79 | 6.79 |
| 2032 | 5.79 | 5.79 | 6.79 |
| 2033 | 5.79 | 5.79 | 6.79 |
| 2034 | 5.79 | 5.79 | 6.79 |
| 2035 | 5.79 | 5.79 | 6.79 |
| 2036 | 5.79 | 5.79 | 6.79 |
| 2037 | 5.79 | 5.79 | 6.79 |
| 2038 | 5.79 | 5.79 | 6.79 |
| 2039 | 5.79 | 5.79 | 6.79 |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook.
The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

2/ Column C = Column B + U.S. Treasury borrowing markup.

Table 2

## 30 YEAR TREASURY YIELDS

FY 2009 JUNE REVISED FORECAST - COMPARISON OF BPA BORROWING RATE FORECASTS

Fiscal Years 2009 - 2039

| YEAR | (A) FY 2009 FORECAST (JUNE REVISED) BPA RATE 1/ | (B) FY 2009 FORECAST (NOVEMBER 2008) BPA RATE 2/ | (C) DIFFERENCE (A-B) |
|---|---|---|---|
| 2009 | 6.33 | 5.35 | 0.97 |
| 2010 | 6.24 | 6.79 | -0.55 |
| 2011 | 7.03 | 6.93 | 0.10 |
| 2012 | 7.36 | 6.69 | 0.67 |
| 2013 | 7.29 | 6.69 | 0.60 |
| 2014 | 7.04 | 6.69 | 0.35 |
| 2015 | 6.89 | 6.69 | 0.20 |
| 2016 | 6.79 | 6.69 | 0.10 |
| 2017 | 6.79 | 6.69 | 0.10 |
| 2018 | 6.79 | 6.69 | 0.10 |
| 2019 | 6.79 | 6.69 | 0.10 |
| 2020 | 6.79 | 6.69 | 0.10 |
| 2021 | 6.79 | 6.69 | 0.10 |
| 2022 | 6.79 | 6.69 | 0.10 |
| 2023 | 6.79 | 6.69 | 0.10 |
| 2024 | 6.79 | 6.69 | 0.10 |
| 2025 | 6.79 | 6.69 | 0.10 |
| 2026 | 6.79 | 6.69 | 0.10 |
| 2027 | 6.79 | 6.69 | 0.10 |
| 2028 | 6.79 | 6.69 | 0.10 |
| 2029 | 6.79 | 6.69 | 0.10 |
| 2030 | 6.79 | 6.69 | 0.10 |
| 2031 | 6.79 | 6.69 | 0.10 |
| 2032 | 6.79 | 6.69 | 0.10 |
| 2033 | 6.79 | 6.69 | 0.10 |
| 2034 | 6.79 | 6.69 | 0.10 |
| 2035 | 6.79 | 6.69 | 0.10 |
| 2036 | 6.79 | 6.69 | 0.10 |
| 2037 | 6.79 | 6.69 | 0.10 |
| 2038 | 6.79 | 6.69 | 0.10 |
| 2039 | 6.79 | | |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook.
The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

2/ BPA FY 2009 Forecast; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Core Forecast.

Table 3

## 20 YEAR TREASURY YIELDS

FY 2009 JUNE REVISED FORECAST - BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2039

| YEAR | (A) BOND RATE 1/ Calendar Year | (B) BOND RATE Fiscal Year | (C) BPA RATE 2/ Fiscal Year |
|---|---|---|---|
| 2009 | 3.86 | 3.88 | 5.41 |
| 2010 | 4.09 | 4.03 | 5.42 |
| 2011 | 5.30 | 5.00 | 6.28 |
| 2012 | 5.62 | 5.54 | 6.68 |
| 2013 | 5.62 | 5.62 | 6.65 |
| 2014 | 5.62 | 5.62 | 6.49 |
| 2015 | 5.62 | 5.62 | 6.39 |
| 2016 | 5.62 | 5.62 | 6.34 |
| 2017 | 5.62 | 5.62 | 6.34 |
| 2018 | 5.62 | 5.62 | 6.34 |
| 2019 | 5.62 | 5.62 | 6.34 |
| 2020 | 5.62 | 5.62 | 6.34 |
| 2021 | 5.62 | 5.62 | 6.34 |
| 2022 | 5.62 | 5.62 | 6.34 |
| 2023 | 5.62 | 5.62 | 6.34 |
| 2024 | 5.62 | 5.62 | 6.34 |
| 2025 | 5.62 | 5.62 | 6.34 |
| 2026 | 5.62 | 5.62 | 6.34 |
| 2027 | 5.62 | 5.62 | 6.34 |
| 2028 | 5.62 | 5.62 | 6.34 |
| 2029 | 5.62 | 5.62 | 6.34 |
| 2030 | 5.62 | 5.62 | 6.34 |
| 2031 | 5.62 | 5.62 | 6.34 |
| 2032 | 5.62 | 5.62 | 6.34 |
| 2033 | 5.62 | 5.62 | 6.34 |
| 2034 | 5.62 | 5.62 | 6.34 |
| 2035 | 5.62 | 5.62 | 6.34 |
| 2036 | 5.62 | 5.62 | 6.34 |
| 2037 | 5.62 | 5.62 | 6.34 |
| 2038 | 5.62 | 5.62 | 6.34 |
| 2039 | 5.62 | 5.62 | 6.34 |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

2/ Column C = Column B + U.S. Treasury borrowing markup.

Table 4

## 15 YEAR TREASURY YIELDS

FY 2009 JUNE REVISED FORECAST - BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2039

| YEAR | (A) BOND RATE 1/ Calendar Year | (B) BOND RATE Fiscal Year | (C) BPA RATE 2/ Fiscal Year |
|---|---|---|---|
| 2009 | 3.74 | 3.76 | 4.95 |
| 2010 | 3.99 | 3.93 | 5.01 |
| 2011 | 5.22 | 4.91 | 5.90 |
| 2012 | 5.53 | 5.45 | 6.34 |
| 2013 | 5.53 | 5.53 | 6.33 |
| 2014 | 5.53 | 5.53 | 6.22 |
| 2015 | 5.53 | 5.53 | 6.14 |
| 2016 | 5.53 | 5.53 | 6.12 |
| 2017 | 5.53 | 5.53 | 6.12 |
| 2018 | 5.53 | 5.53 | 6.12 |
| 2019 | 5.53 | 5.53 | 6.12 |
| 2020 | 5.53 | 5.53 | 6.12 |
| 2021 | 5.53 | 5.53 | 6.12 |
| 2022 | 5.53 | 5.53 | 6.12 |
| 2023 | 5.53 | 5.53 | 6.12 |
| 2024 | 5.53 | 5.53 | 6.12 |
| 2025 | 5.53 | 5.53 | 6.12 |
| 2026 | 5.53 | 5.53 | 6.12 |
| 2027 | 5.53 | 5.53 | 6.12 |
| 2028 | 5.53 | 5.53 | 6.12 |
| 2029 | 5.53 | 5.53 | 6.12 |
| 2030 | 5.53 | 5.53 | 6.12 |
| 2031 | 5.53 | 5.53 | 6.12 |
| 2032 | 5.53 | 5.53 | 6.12 |
| 2033 | 5.53 | 5.53 | 6.12 |
| 2034 | 5.53 | 5.53 | 6.12 |
| 2035 | 5.53 | 5.53 | 6.12 |
| 2036 | 5.53 | 5.53 | 6.12 |
| 2037 | 5.53 | 5.53 | 6.12 |
| 2038 | 5.53 | 5.53 | 6.12 |
| 2039 | 5.53 | 5.53 | 6.12 |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

2/ Column C = Column B + U.S. Treasury borrowing markup.

Table 5

## BPA FY 2009 JUNE REVISED FORECAST - APPROPRIATIONS BORROWING RATE 1/

BPA Fiscal Years 2009 - 2039

**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/ | 2.00 | 2.21 | 2.31 | 2.56 | 2.81 | 3.04 | 3.20 | 3.35 | 3.51 | 3.65 | 3.79 | 3.94 | 4.06 | 4.17 | 4.38 | 4.38 | 4.38 | 4.38 |
| 2010 | 2.09 | 2.25 | 2.50 | 2.75 | 2.99 | 3.16 | 3.32 | 3.49 | 3.66 | 3.82 | 3.84 | 3.86 | 3.88 | 3.91 | 3.93 | 3.95 | 3.97 | 3.99 |
| 2011 | 3.79 | 3.94 | 4.06 | 4.18 | 4.31 | 4.41 | 4.51 | 4.61 | 4.71 | 4.82 | 4.83 | 4.85 | 4.87 | 4.89 | 4.91 | 4.93 | 4.94 | 4.96 |
| 2012 | 4.70 | 4.85 | 4.93 | 5.00 | 5.07 | 5.13 | 5.19 | 5.25 | 5.30 | 5.36 | 5.38 | 5.40 | 5.41 | 5.43 | 5.45 | 5.47 | 5.48 | 5.50 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 2039 | 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 |

1/ Global Insight CY 2008.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, Novermber 2008 Forecast, Base Case

2/ FY 2009 Appropriation rates are determined in accordance with BPA Appropriations Refinancing Act, 16 U.S.C. 838l enacted on April 26, 1996, and are independent of the Global Insight Treasury Yield forecasts.

| 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 2/** |
| 4.01 | 4.03 | 4.05 | 4.07 | 4.09 | 4.11 | 4.13 | 4.16 | 4.18 | 4.20 | 4.22 | 4.24 | 4.24 | **2010** |
| 4.98 | 5.00 | 5.02 | 5.04 | 5.05 | 5.07 | 5.09 | 5.11 | 5.13 | 5.15 | 5.16 | 5.18 | 5.18 | **2011** |
| 5.52 | 5.54 | 5.55 | 5.57 | 5.59 | 5.61 | 5.62 | 5.64 | 5.66 | 5.68 | 5.69 | 5.71 | 5.71 | **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** |
| 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 | **2039** |

Table 6

**BPA FY 2009 JUNE REVISED FORECAST - BPA TREASURY BORROWING YIELD CURVE 1/**

BPA Fiscal Years 2009 - 2039

**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 | 2.59 | 2.94 | 3.28 | 3.62 | 3.80 | 3.97 | 4.15 | 4.32 | 4.49 | 4.58 | 4.68 | 4.77 | 4.86 | 4.95 | 5.04 | 5.13 | 5.23 |
| 2010 | 2.45 | 2.96 | 3.23 | 3.50 | 3.76 | 3.93 | 4.10 | 4.27 | 4.44 | 4.60 | 4.68 | 4.77 | 4.85 | 4.93 | 5.01 | 5.09 | 5.17 | 5.26 |
| 2011 | 4.11 | 4.56 | 4.71 | 4.85 | 5.00 | 5.11 | 5.21 | 5.32 | 5.43 | 5.53 | 5.60 | 5.68 | 5.75 | 5.83 | 5.90 | 5.98 | 6.05 | 6.13 |
| 2012 | 4.98 | 5.38 | 5.48 | 5.58 | 5.68 | 5.75 | 5.82 | 5.89 | 5.95 | 6.00 | 6.07 | 6.14 | 6.21 | 6.27 | 6.34 | 6.41 | 6.48 | 6.55 |
| 2013 | 5.08 | 5.43 | 5.53 | 5.62 | 5.72 | 5.78 | 5.85 | 5.91 | 5.97 | 6.01 | 6.07 | 6.14 | 6.20 | 6.27 | 6.33 | 6.39 | 6.46 | 6.52 |
| 2014 | 5.06 | 5.34 | 5.44 | 5.54 | 5.64 | 5.71 | 5.77 | 5.84 | 5.91 | 5.94 | 6.00 | 6.05 | 6.11 | 6.16 | 6.22 | 6.27 | 6.33 | 6.38 |
| 2015 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.99 | 6.04 | 6.09 | 6.14 | 6.19 | 6.24 | 6.29 |
| 2016 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2017 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2018 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2019 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2020 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2021 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2022 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2023 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2024 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2025 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2026 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2027 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2028 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2029 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2030 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2031 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2032 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2033 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2034 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2035 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2036 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2037 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2038 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.94 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |
| 2039 | 5.04 | 5.29 | 5.39 | 5.49 | 5.59 | 5.66 | 5.72 | 5.79 | 5.86 | 5.89 | 5.93 | 5.98 | 6.03 | 6.07 | 6.12 | 6.16 | 6.21 | 6.25 |

1/ Global Insight CY 2008 Q4 long-term outlook. The U.S. Economy: 30-Year Focus, Novermber 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.32 | 5.41 | 5.50 | 5.59 | 5.68 | 5.78 | 5.87 | 5.96 | 6.05 | 6.14 | 6.23 | 6.33 | 6.33 | **2009** |
| 5.34 | 5.42 | 5.50 | 5.58 | 5.67 | 5.75 | 5.83 | 5.91 | 5.99 | 6.08 | 6.16 | 6.24 | 6.24 | **2010** |
| 6.20 | 6.28 | 6.36 | 6.43 | 6.51 | 6.58 | 6.66 | 6.73 | 6.81 | 6.88 | 6.96 | 7.03 | 7.03 | **2011** |
| 6.61 | 6.68 | 6.75 | 6.82 | 6.89 | 6.95 | 7.02 | 7.09 | 7.16 | 7.23 | 7.29 | 7.36 | 7.36 | **2012** |
| 6.59 | 6.65 | 6.71 | 6.78 | 6.84 | 6.91 | 6.97 | 7.03 | 7.10 | 7.16 | 7.23 | 7.29 | 7.29 | **2013** |
| 6.44 | 6.49 | 6.55 | 6.60 | 6.66 | 6.71 | 6.77 | 6.82 | 6.88 | 6.93 | 6.99 | 7.04 | 7.04 | **2014** |
| 6.34 | 6.39 | 6.44 | 6.49 | 6.54 | 6.59 | 6.64 | 6.69 | 6.74 | 6.79 | 6.84 | 6.89 | 6.89 | **2015** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2016** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2017** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2018** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2019** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2020** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2021** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2022** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2023** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2024** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2025** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2026** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2027** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2028** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2029** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2030** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2031** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2032** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2033** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2034** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2035** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2036** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2037** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2038** |
| 6.30 | 6.34 | 6.39 | 6.43 | 6.48 | 6.52 | 6.57 | 6.61 | 6.66 | 6.70 | 6.75 | 6.79 | 6.79 | **2039** |

Table 7

**BPA FY 2009 JUNE REVISED FORECAST - THIRD-PARTY TAXABLE BORROWING RATE 1/**

BPA Fiscal Years 2009 - 2039

**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 | 1.93 | 2.23 | 2.62 | 3.01 | 3.39 | 3.60 | 3.81 | 4.02 | 4.23 | 4.44 | 4.47 | 4.50 | 4.53 | 4.56 | 4.59 | 4.62 | 4.65 | 4.68 |
| 2010 | 2.45 | 2.80 | 3.10 | 3.41 | 3.72 | 3.93 | 4.14 | 4.34 | 4.55 | 4.76 | 4.79 | 4.82 | 4.84 | 4.87 | 4.89 | 4.92 | 4.95 | 4.97 |
| 2011 | 4.29 | 4.73 | 4.91 | 5.09 | 5.26 | 5.40 | 5.54 | 5.67 | 5.81 | 5.95 | 5.97 | 6.00 | 6.02 | 6.04 | 6.07 | 6.09 | 6.12 | 6.14 |
| 2012 | 5.28 | 5.79 | 5.91 | 6.04 | 6.16 | 6.25 | 6.34 | 6.43 | 6.51 | 6.60 | 6.62 | 6.65 | 6.67 | 6.69 | 6.72 | 6.74 | 6.76 | 6.78 |
| 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 | 5.95 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 | 5.95 | 6.07 | 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 |
| 2039 | 5.43 | 5.95 | 6.07 | 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.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, Novermber 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.71 | 4.74 | 4.76 | 4.79 | 4.82 | 4.85 | 4.88 | 4.91 | 4.94 | 4.97 | 5.00 | 5.03 | 5.03 | **2009** |
| 5.00 | 5.03 | 5.05 | 5.08 | 5.11 | 5.13 | 5.16 | 5.18 | 5.21 | 5.24 | 5.26 | 5.29 | 5.29 | **2010** |
| 6.16 | 6.19 | 6.21 | 6.23 | 6.26 | 6.28 | 6.31 | 6.33 | 6.35 | 6.38 | 6.40 | 6.42 | 6.42 | **2011** |
| 6.81 | 6.83 | 6.85 | 6.88 | 6.90 | 6.92 | 6.94 | 6.97 | 6.99 | 7.01 | 7.04 | 7.06 | 7.06 | **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 | 7.02 | 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** |
| 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 | **2039** |

Table 8

## BPA FY 2009 JUNE REVISED FORECAST - THIRD-PARTY TAX-EXEMPT BORROWING RATE 1/

BPA Fiscal Years 2009 - 2039

**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 | 1.33 | 1.55 | 1.82 | 2.10 | 2.37 | 2.54 | 2.70 | 2.87 | 3.04 | 3.21 | 3.24 | 3.27 | 3.30 | 3.33 | 3.35 | 3.38 | 3.41 | 3.44 |
| 2010 | 1.67 | 1.93 | 2.16 | 2.39 | 2.62 | 2.79 | 2.97 | 3.15 | 3.33 | 3.51 | 3.54 | 3.57 | 3.60 | 3.63 | 3.67 | 3.70 | 3.73 | 3.76 |
| 2011 | 2.88 | 3.22 | 3.37 | 3.53 | 3.68 | 3.82 | 3.95 | 4.09 | 4.23 | 4.37 | 4.40 | 4.43 | 4.47 | 4.50 | 4.53 | 4.56 | 4.60 | 4.63 |
| 2012 | 3.52 | 3.92 | 4.05 | 4.17 | 4.30 | 4.40 | 4.51 | 4.62 | 4.73 | 4.84 | 4.87 | 4.91 | 4.94 | 4.97 | 5.01 | 5.04 | 5.08 | 5.11 |
| 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 |
| 2039 | 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.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, Novermber 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.47 | 3.50 | 3.53 | 3.56 | 3.59 | 3.62 | 3.65 | 3.68 | 3.71 | 3.74 | 3.77 | 3.80 | 3.80 | **2009** |
| 3.79 | 3.83 | 3.86 | 3.89 | 3.92 | 3.96 | 3.99 | 4.02 | 4.05 | 4.08 | 4.12 | 4.15 | 4.15 | **2010** |
| 4.66 | 4.70 | 4.73 | 4.76 | 4.80 | 4.83 | 4.86 | 4.89 | 4.93 | 4.96 | 4.99 | 5.03 | 5.03 | **2011** |
| 5.14 | 5.18 | 5.21 | 5.25 | 5.28 | 5.32 | 5.35 | 5.38 | 5.42 | 5.45 | 5.49 | 5.52 | 5.52 | **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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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 | 5.46 | 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** |
| 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 | **2039** |

Table 9

BPA FY 2009 JUNE REVISED FORECAST - FERC BORROWING RATE (Bank Prime) 1/

Calendar/Fiscal Years 2009 - 2039

| YEAR | (A) FERC RATE Calendar Year | (B) FERC RATE Fiscal Year |
|---|---|---|
| 2009 | 3.50 | 3.90 |
| 2010 | 4.22 | 4.04 |
| 2011 | 6.73 | 6.10 |
| 2012 | 7.75 | 7.50 |
| 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 |
| 2039 | 7.75 | 7.75 |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

Table 10

BPA FY 2009 JUNE REVISED FORECAST - 3-MONTH LIBOR RATE 1/

Calendar/Fiscal Years 2009 - 2039

| YEAR | (A) 3-Mo LIBOR Calendar Year | (B) 3-Mo LIBOR Fiscal Year |
|---|---|---|
| 2009 | 4.15 | 4.02 |
| 2010 | 3.96 | 4.01 |
| 2011 | 4.95 | 4.71 |
| 2012 | 5.26 | 5.18 |
| 2013 | 5.26 | 5.26 |
| 2014 | 5.26 | 5.26 |
| 2015 | 5.26 | 5.26 |
| 2016 | 5.26 | 5.26 |
| 2017 | 5.26 | 5.26 |
| 2018 | 5.26 | 5.26 |
| 2019 | 5.26 | 5.26 |
| 2020 | 5.26 | 5.26 |
| 2021 | 5.26 | 5.26 |
| 2022 | 5.26 | 5.26 |
| 2023 | 5.26 | 5.26 |
| 2024 | 5.26 | 5.26 |
| 2025 | 5.26 | 5.26 |
| 2026 | 5.26 | 5.26 |
| 2027 | 5.26 | 5.26 |
| 2028 | 5.26 | 5.26 |
| 2029 | 5.26 | 5.26 |
| 2030 | 5.26 | 5.26 |
| 2031 | 5.26 | 5.26 |
| 2032 | 5.26 | 5.26 |
| 2033 | 5.26 | 5.26 |
| 2034 | 5.26 | 5.26 |
| 2035 | 5.26 | 5.26 |
| 2036 | 5.26 | 5.26 |
| 2037 | 5.26 | 5.26 |
| 2038 | 5.26 | 5.26 |
| 2039 | 5.26 | 5.26 |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook. The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case.

TABLE 11

## COMPARISON OF INFLATION FORECAST COMPONENTS
### CALENDAR/FISCAL YEAR FORECASTS FY 2009 June Revised vs. FY 2009

**BPA Fiscal Years 2009 - 2039**

| | A<br>FY 2009 June Revised 1/<br>CALENDAR YEAR<br>GDP PRICE<br>DEFLATOR<br>% | B<br>FY 2009 June Revised 1/<br>FISCAL YEAR<br>GDP PRICE<br>DEFLATOR<br>% | C<br>FY 2009 June Revised 2/<br>FISCAL YEAR<br>CUMULATIVE<br>PRICE DEFLATOR<br>(Base Year 2009) | D<br>FY 2009 3/<br>LAST YEAR'S<br>FY PRICE<br>DEFLATOR | E<br>FY 2009 3/<br>LAST YEAR'S<br>FY CUMULATIVE<br>PRICE DEFLATOR<br>(Base Year 2009) | F<br>CHANGE IN THE<br>FY PRICE<br>DEFLATOR | G<br>CHANGE IN THE<br>FY CUMULATIVE<br>PRICE DEFLATOR |
|---|---|---|---|---|---|---|---|
| 2009 | 1.81% | 1.93% | 1.010 | 2.15% | 1.011 | -0.22% | -0.001 |
| 2010 | 1.35% | 1.46% | 1.024 | 2.03% | 1.032 | -0.56% | -0.007 |
| 2011 | 1.65% | 1.57% | 1.041 | 2.02% | 1.053 | -0.45% | -0.012 |
| 2012 | 1.87% | 1.82% | 1.059 | 2.12% | 1.075 | -0.30% | -0.015 |
| 2013 | 2.02% | 1.98% | 1.080 | 2.01% | 1.097 | -0.03% | -0.016 |
| 2014 | 2.05% | 2.04% | 1.103 | 2.03% | 1.119 | 0.01% | -0.016 |
| 2015 | 1.94% | 1.97% | 1.124 | 2.00% | 1.141 | -0.04% | -0.017 |
| 2016 | 1.90% | 1.91% | 1.146 | 1.97% | 1.164 | -0.07% | -0.018 |
| 2017 | 1.85% | 1.86% | 1.167 | 1.97% | 1.187 | -0.11% | -0.020 |
| 2018 | 1.85% | 1.85% | 1.189 | 1.99% | 1.210 | -0.14% | -0.022 |
| 2019 | 1.83% | 1.84% | 1.210 | 2.01% | 1.235 | -0.17% | -0.024 |
| 2020 | 1.89% | 1.87% | 1.233 | 2.12% | 1.260 | -0.25% | -0.027 |
| 2021 | 1.70% | 1.75% | 1.255 | 2.02% | 1.286 | -0.27% | -0.032 |
| 2022 | 1.78% | 1.76% | 1.277 | 1.92% | 1.311 | -0.17% | -0.035 |
| 2023 | 1.78% | 1.78% | 1.299 | 1.91% | 1.336 | -0.13% | -0.037 |
| 2024 | 1.75% | 1.76% | 1.322 | 1.87% | 1.361 | -0.12% | -0.039 |
| 2025 | 1.73% | 1.73% | 1.345 | 1.83% | 1.387 | -0.09% | -0.042 |
| 2026 | 1.74% | 1.74% | 1.368 | 1.82% | 1.412 | -0.08% | -0.043 |
| 2027 | 1.80% | 1.78% | 1.393 | 1.86% | 1.438 | -0.08% | -0.045 |
| 2028 | 1.81% | 1.81% | 1.418 | 1.85% | 1.465 | -0.04% | -0.047 |
| 2029 | 1.80% | 1.80% | 1.443 | 1.82% | 1.491 | -0.02% | -0.048 |
| 2030 | 1.82% | 1.81% | 1.470 | 1.81% | 1.518 | 0.01% | -0.049 |
| 2031 | 1.84% | 1.84% | 1.497 | 1.81% | 1.546 | 0.02% | -0.049 |
| 2032 | 1.79% | 1.81% | 1.524 | 1.75% | 1.573 | 0.05% | -0.049 |
| 2033 | 1.74% | 1.75% | 1.550 | 1.70% | 1.600 | 0.05% | -0.050 |
| 2034 | 1.75% | 1.75% | 1.577 | 1.69% | 1.627 | 0.06% | -0.050 |
| 2035 | 1.76% | 1.76% | 1.605 | 1.70% | 1.655 | 0.06% | -0.050 |
| 2036 | 1.76% | 1.76% | 1.633 | 1.69% | 1.683 | 0.06% | -0.049 |
| 2037 | 1.79% | 1.78% | 1.662 | 1.72% | 1.712 | 0.07% | -0.049 |
| 2038 | 1.82% | 1.81% | 1.693 | 1.73% | 1.741 | 0.09% | -0.048 |
| 2039 | 1.82% | 1.82% | 1.723 | | | | |

1/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook.
The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case

2/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2009, is determined as follows: 1.010 = [(1.93/100)*.5] + 1. An example of subsequent year cumulative growth such as in 2010 is found as: 1.024 = [1+ (1.46/100)]*1.010

3/ BPA FY 2009 Forecast; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

TABLE 12

## FY 2009 JUNE REVISED FORECAST - INFLATION FORECAST COMPARISONS 1/

GROSS DOMESTIC PRODUCT PRICE DEFLATOR INDEXES

BPA Fiscal Years 2008 - 2039

| YEAR | (A) FY 2009.Q2 2/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2009) | (B) FY 2009.Q1 3/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2009) | (C) (A - B) DIFFERENCE |
|---|---|---|---|
| 2009 | 1.010 | 1.011 | -0.001 |
| 2010 | 1.024 | 1.032 | -0.007 |
| 2011 | 1.041 | 1.053 | -0.012 |
| 2012 | 1.059 | 1.075 | -0.015 |
| 2013 | 1.080 | 1.097 | -0.016 |
| 2014 | 1.103 | 1.119 | -0.016 |
| 2015 | 1.124 | 1.141 | -0.017 |
| 2016 | 1.146 | 1.164 | -0.018 |
| 2017 | 1.167 | 1.187 | -0.020 |
| 2018 | 1.189 | 1.210 | -0.022 |
| 2019 | 1.210 | 1.235 | -0.024 |
| 2020 | 1.233 | 1.260 | -0.027 |
| 2021 | 1.255 | 1.286 | -0.032 |
| 2022 | 1.277 | 1.311 | -0.035 |
| 2023 | 1.299 | 1.336 | -0.037 |
| 2024 | 1.322 | 1.361 | -0.039 |
| 2025 | 1.345 | 1.387 | -0.042 |
| 2026 | 1.368 | 1.412 | -0.043 |
| 2027 | 1.393 | 1.438 | -0.045 |
| 2028 | 1.418 | 1.465 | -0.047 |
| 2029 | 1.443 | 1.491 | -0.048 |
| 2030 | 1.470 | 1.518 | -0.049 |
| 2031 | 1.497 | 1.546 | -0.049 |
| 2032 | 1.524 | 1.573 | -0.049 |
| 2033 | 1.550 | 1.600 | -0.050 |
| 2034 | 1.577 | 1.627 | -0.050 |
| 2035 | 1.605 | 1.655 | -0.050 |
| 2036 | 1.633 | 1.683 | -0.049 |
| 2037 | 1.662 | 1.712 | -0.049 |

1/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2009, is determined as follows: 1.010 = [(1.93/100)*.5] + 1. An example of subsequent year cumulative growth such as in 2010 is fo
1.024 = [1+ (1.46/100)]*1.010

2/ BPA FY 2009 June Revised Forecast; Global Insight CY 2008.Q4 long-term outlook.
The U.S. Economy: 30-Year Focus, November 2008 Forecast, Base Case

3/ BPA FY 2009 Forecast; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

# 7. HISTORICAL AND PROJECTED BONDS ISSUED TO TREASURY

## 7.1 Introduction

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 and Reclamation/COE investments that will be direct-funded by BPA.

## 7.2 Issuing Bonds

BPA primarily funds capital outlays by issuing new long-term debt in the form of bonds issued to the U.S. Treasury. BPA issues four types of bonds for PS: Construction, Conservation, Fish and Wildlife/Environment, and Reclamation/COE direct-funded. Construction bonds included in the generation study are the portions of bonds that fund furniture, ADP hardware and software for PS. (Construction bonds are also issued to fund capital expenditures of the Transmission Business Line including ADP hardware and software and furniture.) Conservation bonds are issued to fund the capital portion of BPA's conservation program. Fish and Wildlife bonds are issued to fund the capital portion of BPA's Fish and Wildlife program. Environment bonds are issued to fund work done by the Transmission Business Line and are not included in the generation repayment study. BPA also issues bonds to fund Reclamation/COE generation efficiency and reliability improvements. All bonds projected for issuance have been entered into the generation repayment study.

Reclamation/COE direct funding bonds are entered in the repayment program with a maximum period to maturity of 45 years. Construction bonds are given a maximum repayment period of 40 years, Fish and Wildlife bonds are entered with a period to maturity of 15 years, and Conservation is given a maturity of 5 years.

New bonds for the cost evaluation period (FY 2009 - 2011) and projected borrowing for the 7(b)2 rate test period (FY 2012-15) are based on projected BPA and Reclamation/COE capital program outlays. Maturities reflect the average services lives of the assets. The assignment practices for interest rates are discussed in Chapter 2 of the Study. The interest rates used are in Chapter 6 of this document.

**Table 7A**
**BPA Projected Generation Federal Borrowing**
**FY 2009 - 2011**
**($000s)**

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | FY | | | | Interest | | | | Total | |
| 2 | | Year | | Description | | Rate | | Term | | Borrowing | |
| 3 | | 2009 | | IT and Facilities [1/] | | 6.330% | | 5 | | 10,000 | |
| 4 | | | | Fish, Wildlife & Environmental | | 4.950% | | 15 | | 40,000 | |
| 5 | | | | Conservation | | 3.620% | | 5 | | 15,000 | |
| 6 | | | | BOR/COE [2/] | | 5.263% | | 45 | | 105,000 | |
| 7 | | | | | | | | | | 170,000 | |
| 8 | | | | | | | | | | | |
| 9 | | 2010 | | IT and Facilities [1/] | | 6.240% | | 35 | | 12,027 | |
| 10 | | | | Fish, Wildlife & Environmental | | 5.010% | | 15 | | 70,000 | |
| 11 | | | | Conservation | | 3.760% | | 5 | | 32,819 | |
| 12 | | | | BOR/COE [2/] | | 6.240% | | 45 | | 157,581 | |
| 13 | | | | | | | | | | 272,427 | |
| 14 | | | | | | | | | | | |
| 15 | | 2011 | | IT and Facilities [1/] | | 7.030% | | 35 | | 12,882 | |
| 16 | | | | Fish, Wildlife & Environmental | | 5.900% | | 15 | | 60,000 | |
| 17 | | | | Conservation | | 5.000% | | 5 | | 39,592 | |
| 18 | | | | BOR/COE [2/] | | 7.030% | | 45 | | 171,208 | |
| 19 | | | | | | | | | | 283,682 | |
| 20 | | | | | | | | | | | |
| 21 | | 2012 | | IT and Facilities [1/] | | 7.360% | | 35 | | 15,532 | |
| 22 | | | | Fish, Wildlife & Environmental | | 6.340% | | 15 | | 50,000 | |
| 23 | | | | Conservation | | 5.680% | | 5 | | 47,203 | |
| 24 | | | | BOR/COE [2/] | | 7.360% | | 45 | | 178,897 | |
| 25 | | | | | | | | | | 291,632 | |
| 26 | | | | | | | | | | | |
| 27 | | 2013 | | IT and Facilities [1/] | | 7.290% | | 35 | | 15,592 | |
| 28 | | | | Fish, Wildlife & Environmental | | 6.330% | | 15 | | 50,000 | |
| 29 | | | | Conservation | | 5.720% | | 5 | | 47,221 | |
| 30 | | | | BOR/COE [2/] | | 7.290% | | 45 | | 189,079 | |
| 31 | | | | | | | | | | 301,892 | |
| 32 | | | | | | | | | | | |
| 33 | | 2014 | | IT and Facilities [1/] | | 7.040% | | 35 | | 15,796 | |
| 34 | | | | Fish, Wildlife & Environmental | | 6.220% | | 15 | | 50,000 | |
| 35 | | | | Conservation | | 5.640% | | 5 | | 47,224 | |
| 36 | | | | BOR/COE [2/] | | 7.040% | | 45 | | 190,776 | |
| 37 | | | | | | | | | | 303,796 | |
| 38 | | | | | | | | | | | |
| 39 | | 2015 | | IT and Facilities [1/] | | 6.890% | | 35 | | 15,935 | |
| 40 | | | | Fish, Wildlife & Environmental | | 6.140% | | 15 | | 50,000 | |
| 41 | | | | Conservation | | 5.590% | | 5 | | 47,600 | |
| 42 | | | | BOR/COE [2/] | | 6.890% | | 45 | | 192,100 | |
| 43 | | | | | | | | | | 305,635 | |
| 44 | | | | | | | | | | | |
| 45 | | 1/ | | Bonds issued for this purpose are construction bonds and fund IT and facilities equipment. | | | | | | | |
| 46 | | 2/ | | Bonds issued for this purpose are for direct funding efficiency and reliability. 2009 interest rate is the average of four bonds to be issued. | | | | | | | |

# 8. CAPITALIZED CONTRACTS AND OTHER LONG TERM RESOURCE ACQUISITION OBLIGATIONS

## 8.1 Introduction

This chapter documents the data on third-party debt service or payment costs associated with capitalized contracts and other long-term, fixed contractual obligations. This chapter does not include replacements for the Columbia Generating Station (CGS). This information is included in Chapter 10 of this document.

## 8.2 Methodology

To determine debt service streams for EN Nuclear Projects WNP-1, CGS, and WNP-3, a bond model specifically developed for EN debt is used, and streams are based on the amount of EN debt outstanding. The debt service streams reflect all EN refinancings to date. Debt service streams for other capitalized contracts are derived from such sources as Official Statements, Agency agreements, Agency contracts, and budgetary data. Debt service streams include assumptions about projected CGS capital investments and future repayment of WNP-1 debt. It also includes a modeling assumption that some WNP-1 variable rate debt due in FY2016-2017 would be repaid in FY 2013-2015. The data used in the repayment study is shown in the attached tables. This data forms the basis for calculating debt service on the EN projects. See Chapter 3.

Debt service for the Northern Wasco project is also included in this chapter. After the bond issuance, BPA decided to cancel its participation in the project. The debt service goes from 1999 to 2025. It was paid from the construction fund until it was exhausted in 2007. From 2008 to 2025, the repayment study reflects the data on Table 8G.

**Table 8A**

**Capitalized Contract Expense**

| Fiscal Year | WNP-1 | CGS | WNP-2 | Emerald | CARES | Tacoma | Wasco | Cowlitz | Total |
|---|---|---|---|---|---|---|---|---|---|
| 2009 | $ 129,916,591 | $ 162,514,605 | $ 130,192,215 | $ 244,797 | $ 3,110,788 | $ 1,832,003 | $ 2,201,781 | $ 11,571,056 | $ 441,583,835 |
| 2010 | 166,013,142 | 235,735,861 | 144,891,927 | 138,215 | 3,107,125 | 1,833,228 | 2,200,220 | 11,566,306 | 565,486,024 |
| 2011 | 167,548,721 | 226,169,088 | 169,093,477 | - | 3,095,000 | 1,828,617 | 2,196,075 | 11,562,681 | 581,493,659 |
| 2012 | 192,512,743 | 300,054,867 | 162,207,520 | - | 3,091,750 | 1,831,213 | 2,193,439 | 11,559,431 | 673,450,963 |
| 2013 | 292,520,060 | 140,866,552 | 178,718,801 | - | 3,086,875 | 1,829,675 | 2,192,411 | 11,546,056 | 630,760,430 |
| 2014 | 291,682,005 | 179,650,892 | 175,459,851 | - | 3,080,125 | 1,830,537 | 2,192,605 | 11,541,806 | 665,437,820 |
| 2015 | 219,551,511 | 213,085,922 | 193,458,714 | - | - | 305,133 | 2,190,179 | 11,530,806 | 640,122,265 |
| 2016 | 317,654,549 | 113,116,851 | 274,436,705 | - | - | - | 2,188,430 | 11,517,431 | 718,913,966 |
| 2017 | 257,577,060 | 182,877,509 | 295,317,798 | - | - | - | 2,187,955 | 11,515,556 | 749,475,878 |
| 2018 | - | 284,988,146 | 275,911,248 | - | - | - | 2,184,435 | 11,504,181 | 574,588,010 |
| **Total** | **$ 2,034,976,382** | **$ 2,039,060,292** | **$ 1,999,688,255** | **$ 383,012** | **$ 18,571,663** | **$ 11,290,406** | **$ 21,927,530** | **$ 115,415,310** | **$ 6,241,312,850** |

## Table 8B

## Total WNP-1 Net Debt Service -- GAAP BASIS

| Fiscal Year | Principal | Interest | Expenses | Total Debt Service |
|---|---|---|---|---|
| 2009 | $ 47,143,077 | $ 80,910,395 | $ 1,863,119 | $ 129,916,591 |
| 2010 | 86,235,000 | 77,915,023 | 1,863,119 | 166,013,142 |
| 2011 | 92,318,018 | 73,367,584 | 1,863,119 | 167,548,721 |
| 2012 | 121,879,692 | 68,769,932 | 1,863,119 | 192,512,743 |
| 2013 | 228,252,065 | 62,404,876 | 1,863,119 | 292,520,060 |
| 2014 | 239,441,839 | 50,377,047 | 1,863,119 | 291,682,005 |
| 2015 | 179,454,542 | 38,233,850 | 1,863,119 | 219,551,511 |
| 2016 | 286,823,221 | 28,968,209 | 1,863,119 | 317,654,549 |
| 2017 | 242,886,477 | 13,293,243 | 1,397,339 | 257,577,060 |
| **Total** | **$ 1,524,433,931** | **$ 494,240,160** | **$ 16,302,291** | **$ 2,034,976,382** |

## Table 8C

### Total CGS Net Debt Service -- GAAP BASIS

| Fiscal Year | Principal | Interest | Expenses | Total Debt Service |
|---|---|---|---|---|
| 2009 | $ 68,127,888 | $ 93,397,000 | $ 989,716 | $ 162,514,605 |
| 2010 | 141,353,750 | 92,767,313 | 989,716 | 235,110,779 |
| 2011 | 137,569,164 | 84,099,013 | 989,716 | 222,657,894 |
| 2012 | 214,630,679 | 76,903,199 | 989,716 | 292,523,594 |
| 2013 | 63,471,385 | 65,346,641 | 989,716 | 129,807,742 |
| 2014 | 102,570,643 | 62,184,207 | 989,716 | 165,744,566 |
| 2015 | 137,122,221 | 57,028,825 | 989,716 | 195,140,762 |
| 2016 | 42,512,842 | 49,921,422 | 989,716 | 93,423,981 |
| 2017 | 114,582,218 | 47,608,888 | 989,716 | 163,180,822 |
| 2018 | 223,249,353 | 41,300,448 | 742,287 | 265,292,087 |
| 2019 | 25,878,750 | 28,923,241 | | 54,801,991 |
| 2020 | 104,840,000 | 27,601,653 | | 132,441,653 |
| 2021 | 110,170,000 | 22,279,614 | | 132,449,614 |
| 2022 | 115,658,750 | 16,784,162 | | 132,442,912 |
| 2023 | 121,463,750 | 10,979,516 | | 132,443,266 |
| 2024 | 94,548,750 | 4,783,697 | | 99,332,447 |
| **Total** | **$ 1,817,750,143** | **$ 781,908,839** | **$ 9,649,731** | **$ 2,609,308,713** |

### Total CGS New Capital Projections through FY 2015

| Fiscal Year | Principal | Interest | Expenses | Total Debt Service |
|---|---|---|---|---|
| 2009 | | | $ - | $ - |
| 2010 | | 625,082 | - | 625,082 |
| 2011 | | 3,511,195 | - | 3,511,195 |
| 2012 | 311,250 | 7,220,024 | - | 7,531,274 |
| 2013 | 1,401,250 | 9,657,560 | - | 11,058,810 |
| 2014 | 2,433,750 | 11,472,576 | - | 13,906,326 |
| 2015 | 4,380,000 | 13,565,160 | - | 17,945,160 |
| 2016 | 5,202,500 | 14,490,370 | - | 19,692,870 |
| 2017 | 5,436,250 | 14,260,437 | - | 19,696,687 |
| 2018 | 5,685,000 | 14,011,058 | - | 19,696,058 |
| 2019 | 12,782,500 | 13,743,375 | - | 26,525,875 |
| 2020 | 33,857,500 | 13,164,770 | - | 47,022,270 |
| 2021 | 35,350,000 | 11,671,514 | - | 47,021,514 |
| 2022 | 36,936,250 | 10,081,903 | - | 47,018,153 |
| 2023 | 38,618,750 | 8,403,599 | - | 47,022,349 |
| 2024 | 31,916,250 | 6,631,370 | - | 38,547,620 |
| 2025 | 8,010,000 | 5,141,787 | | 13,151,787 |
| 2026 | 8,436,250 | 4,714,546 | | 13,150,796 |
| 2027 | 8,888,750 | 4,261,685 | | 13,150,435 |
| 2028 | 9,372,500 | 3,781,183 | | 13,153,683 |
| 2029 | 9,885,000 | 3,271,103 | | 13,156,103 |
| 2030 | 10,417,500 | 2,729,414 | | 13,146,914 |
| 2031 | 10,993,750 | 2,155,013 | | 13,148,763 |
| 2032 | 10,826,250 | 1,544,783 | | 12,371,033 |
| 2033 | 8,637,500 | 937,067 | | 9,574,567 |
| 2034 | 6,246,250 | 443,655 | | 6,689,905 |
| 2035 | 1,650,000 | 94,203 | | 1,744,203 |
| **Total** | **$ 307,675,000** | **$ 181,584,429** | **$ -** | **$ 489,259,429** |

## Table 8D

## Total WNP-3 Net Debt Service -- GAAP BASIS

| Fiscal Year | Principal | Interest | Expenses | Total Debt Service |
|---|---|---|---|---|
| 2009 | $ 40,371,722 | $ 87,755,796 | $ 2,064,697 | $ 130,192,215 |
| 2010 | 47,458,720 | 95,368,510 | 2,064,697 | 144,891,927 |
| 2011 | 80,456,090 | 86,572,690 | 2,064,697 | 169,093,477 |
| 2012 | 75,191,685 | 84,951,138 | 2,064,697 | 162,207,520 |
| 2013 | 90,201,023 | 86,453,081 | 2,064,697 | 178,718,801 |
| 2014 | 99,102,144 | 74,293,010 | 2,064,697 | 175,459,851 |
| 2015 | 137,945,055 | 53,448,962 | 2,064,697 | 193,458,714 |
| 2016 | 224,299,213 | 48,072,794 | 2,064,697 | 274,436,705 |
| 2017 | 257,852,266 | 35,400,835 | 2,064,697 | 295,317,798 |
| 2018 | 255,687,101 | 18,675,624 | 1,548,523 | 275,911,248 |
| **Total** | **$ 1,308,565,018** | **$ 670,992,441** | **$ 20,130,796** | **$ 1,999,688,255** |

## Table 8E

### Total Energy Northwest Net Debt Service -- GAAP BASIS
### Includes WNP-1 and -3, CGS, and CGS capital additions

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 6 | **Fiscal Year** | **Principal** | **Interest** | **Expenses** | **Total Debt Service** |
| 7 | 2009 | $ 155,642,687 | $ 262,063,192 | $ 4,917,532 | $ 422,623,411 |
| 8 | 2010 | 275,047,470 | 266,675,928 | 4,917,532 | 546,640,930 |
| 9 | 2011 | 310,343,272 | 247,550,482 | 4,917,532 | 562,811,286 |
| 10 | 2012 | 412,013,305 | 237,844,292 | 4,917,532 | 654,775,130 |
| 11 | 2013 | 383,325,723 | 223,862,158 | 4,917,532 | 612,105,413 |
| 12 | 2014 | 443,548,375 | 198,326,840 | 4,917,532 | 646,792,747 |
| 13 | 2015 | 458,901,818 | 162,276,797 | 4,917,532 | 626,096,147 |
| 14 | 2016 | 558,837,777 | 141,452,796 | 4,917,532 | 705,208,105 |
| 15 | 2017 | 620,757,211 | 110,563,404 | 4,451,752 | 735,772,367 |
| 16 | 2018 | 484,621,454 | 73,987,130 | 2,290,810 | 560,899,394 |
| 17 | 2019 | 38,661,250 | 42,666,615 | - | 81,327,865 |
| 18 | 2020 | 138,697,500 | 40,766,422 | - | 179,463,922 |
| 19 | 2021 | 145,520,000 | 33,951,128 | - | 179,471,128 |
| 20 | 2022 | 152,595,000 | 26,866,064 | - | 179,461,064 |
| 21 | 2023 | 160,082,500 | 19,383,115 | - | 179,465,615 |
| 22 | 2024 | 126,465,000 | 11,415,067 | - | 137,880,067 |
| 23 | 2025 | 8,010,000 | 5,141,787 | - | 13,151,787 |
| 24 | 2026 | 8,436,250 | 4,714,546 | - | 13,150,796 |
| 25 | 2027 | 8,888,750 | 4,261,685 | - | 13,150,435 |
| 26 | 2028 | 9,372,500 | 3,781,183 | - | 13,153,683 |
| 27 | 2029 | 9,885,000 | 3,271,103 | - | 13,156,103 |
| 28 | 2030 | 10,417,500 | 2,729,414 | - | 13,146,914 |
| 29 | 2031 | 10,993,750 | 2,155,013 | - | 13,148,763 |
| 30 | 2032 | 10,826,250 | 1,544,783 | - | 12,371,033 |
| 31 | 2033 | 8,637,500 | 937,067 | - | 9,574,567 |
| 32 | 2034 | 6,246,250 | 443,655 | - | 6,689,905 |
| 33 | 2035 | 1,650,000 | 94,203 | - | 1,744,203 |
| 34 | **Total** | **$ 4,103,039,091** | **$ 1,924,603,020** | **$ 46,082,818** | **$ 6,073,724,929** |

## Table 8F

### Total CARES Net Debt Service -- GAAP BASIS

| Fiscal Year | Principal | Interest | Total Debt Service |
|---|---|---|---|
| 2009 | $ 2,380,000 | $ 730,788 | $ 3,110,788 |
| 2010 | 2,485,000 | 622,125 | 3,107,125 |
| 2011 | 2,600,000 | 495,000 | 3,095,000 |
| 2012 | 2,730,000 | 361,750 | 3,091,750 |
| 2013 | 2,865,000 | 221,875 | 3,086,875 |
| 2014 | 3,005,000 | 75,125 | 3,080,125 |
| **Total** | **$ 16,065,000** | **$ 2,506,663** | **$ 18,571,663** |

| | A | B | C | D |
|---|---|---|---|---|
| 1 | | | | |
| 2 | **Table 8G** | | | |
| 3 | | | | |
| 4 | **Total Tacoma Net Debt Service -- GAAP BASIS** | | | |
| 5 | | | | |
| 6 | **Fiscal Year** | **Principal** | **Interest** | **Total Debt Service** |
| 7 | 2009 | $ 1,434,167 | $ 397,836 | $ 1,832,003 |
| 8 | 2010 | 1,495,000 | 338,228 | 1,833,228 |
| 9 | 2011 | 1,546,667 | 281,950 | 1,828,617 |
| 10 | 2012 | 1,613,333 | 217,880 | 1,831,213 |
| 11 | 2013 | 1,691,667 | 138,008 | 1,829,675 |
| 12 | 2014 | 1,775,833 | 54,704 | 1,830,537 |
| 13 | 2015 | 298,333 | 6,800 | 305,133 |
| 14 | **Total** | **$ 9,855,000** | **$ 1,435,406** | **$ 11,290,406** |
| 15 | | | | |

## Table 8H

## Total N. Wasco Net Debt Service -- GAAP BASIS

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 6 | Fiscal Year | Principal | Interest | Debt Service Reserve Fund | Total Debt Service |
| 7 | 2009 | $ 986,667 | $ 1,215,148 | $ (34) | $ 2,201,781 |
| 8 | 2010 | 1,036,667 | 1,163,553 | - | 2,200,220 |
| 9 | 2011 | 1,086,667 | 1,109,408 | - | 2,196,075 |
| 10 | 2012 | 1,140,833 | 1,052,606 | - | 2,193,439 |
| 11 | 2013 | 1,200,000 | 992,411 | - | 2,192,411 |
| 12 | 2014 | 1,264,167 | 928,438 | - | 2,192,605 |
| 13 | 2015 | 1,329,167 | 861,012 | - | 2,190,179 |
| 14 | 2016 | 1,398,333 | 790,097 | - | 2,188,430 |
| 15 | 2017 | 1,472,500 | 715,455 | - | 2,187,955 |
| 16 | 2018 | 1,547,500 | 636,935 | - | 2,184,435 |
| 17 | 2019 | 1,626,667 | 554,407 | - | 2,181,074 |
| 18 | 2020 | 1,710,833 | 467,632 | - | 2,178,465 |
| 19 | 2021 | 1,800,000 | 376,350 | - | 2,176,350 |
| 20 | 2022 | 1,894,167 | 280,302 | - | 2,174,469 |
| 21 | 2023 | 1,993,333 | 179,227 | - | 2,172,560 |
| 22 | 2024 | 2,097,500 | 72,865 | - | 2,170,365 |
| 23 | 2025 | 352,500 | 9,165 | - | 361,665 |
| 24 | **Total** | **$ 23,937,501** | **$ 11,405,011** | **$ (34)** | **$ 35,342,478** |

## Table 8I

### Total Cowlitz Net Debt Service -- GAAP BASIS

| Fiscal Year | Principal | Interest | Total Debt Service |
|---|---|---|---|
| 2009 | $ 5,360,000 | $ 6,211,056 | $ 11,571,056 |
| 2010 | 5,630,000 | 5,936,306 | 11,566,306 |
| 2011 | 5,915,000 | 5,647,681 | 11,562,681 |
| 2012 | 6,215,000 | 5,344,431 | 11,559,431 |
| 2013 | 6,520,000 | 5,026,056 | 11,546,056 |
| 2014 | 6,850,000 | 4,691,806 | 11,541,806 |
| 2015 | 7,190,000 | 4,340,806 | 11,530,806 |
| 2016 | 7,545,000 | 3,972,431 | 11,517,431 |
| 2017 | 7,930,000 | 3,585,556 | 11,515,556 |
| 2018 | 8,325,000 | 3,179,181 | 11,504,181 |
| 2019 | 8,740,000 | 2,752,556 | 11,492,556 |
| 2020 | 9,175,000 | 2,304,681 | 11,479,681 |
| 2021 | 9,635,000 | 1,834,431 | 11,469,431 |
| 2022 | 10,120,000 | 1,340,556 | 11,460,556 |
| 2023 | 11,035,000 | 811,681 | 11,846,681 |
| 2024 | 11,585,000 | 267,903 | 11,852,903 |
| **Total** | **$ 127,770,000** | **$ 57,247,118** | **$ 185,017,118** |

# 9. IRRIGATION ASSISTANCE

## 9.1 Introduction

This chapter documents the amount of irrigation construction costs for Federal reclamation projects in the Pacific Northwest allocated to irrigation use that the FCRPS has an obligation to repay. These payments are known as irrigation assistance.

## 9.2 Background

In an effort to encourage settlement of the arid and semiarid lands of the Western United States, the 1902 Reclamation Act created the Reclamation to develop water resources for irrigation. The 1902 Reclamation Act provided that irrigators using the reclamation projects had 10 years to repay the construction costs of such projects. Title to the reclamation projects, however, remained with the Federal government even after all construction costs were repaid.

By the 1920s, a 10-year repayment period for irrigators was determined to be economically unrealistic. After several leniency acts and extensions, Congress passed the 1939 Reclamation Act, which changed the repayment period on reclamation projects to 40 years after a 10-year development period. Later revisions and project-specific legislation extended repayment periods for most reclamation projects to 50 years after a 10-year development period. However, the Kennewick project has a 66-year repayment period.

Originally, irrigators were responsible for repaying all project construction costs without interest. However, hydropower is a by-product of many reclamation projects and not all of the power generated is needed for irrigation works. As early as the Town Sites and Power Development Act (April 16, 1906, ch. 1631, 34 Stat. 116) Congress authorized Reclamation to lease surplus power and use the proceeds to repay part of the costs of the reclamation projects.

The concept of power revenues contributing to the repayment of Reclamation's multipurpose projects evolved to the current policy, in which power revenues are used to repay that portion of the project construction costs allocated to irrigation use that are beyond the irrigators' "ability to repay." Moreover, the costs to be repaid by power revenues, known as irrigation assistance, are to be repaid without interest. Reclamation has the responsibility to make the determination of the amount that is beyond the irrigators' "ability to repay" through a farm budget analysis. The results of this analysis are used to establish the irrigators' repayment responsibility. The irrigators, as an irrigation district, and Reclamation formalize this repayment responsibility in irrigation contracts.

## 9.3 Irrigation Repayment

In the Pacific Northwest, the Third Powerplant, Grand Coulee Dam legislation, P.L. 89-448, authorized repayment of the irrigation assistance costs from net revenues of the entire FCRPS. There are, however, limitations on the FCRPS's repayment responsibility. These limitations were added in amendment to the Third Powerplant, Grand Coulee Dam legislation, P.L. 89-561, and apply to reclamation projects, including projects not previously receiving similar assistance, which are authorized to receive such assistance, for which construction was authorized after September 7, 1966.

## 9.4 The Limitations

The irrigation assistance for such projects is to be paid only from net revenues of the power system. Net revenues are defined as those revenues over and above the amount needed to recover all costs allocated to power, including the cost of acquiring power by purchase or exchange, and previously authorized irrigation assistance. The construction of such projects shall be scheduled so that the repayment of the irrigation assistance associated with such projects from power revenues will not require an increase in the BPA power rate level.

The total of all irrigation assistance to be repaid from power revenues shall not average more than $30 million per year in any period of 20 consecutive years.

Reclamation provides BPA with data on the irrigation assistance to be repaid from each reclamation project, and estimates for future additions to such projects. The generation repayment study includes information provided in July 2008. Because irrigation assistance costs are repaid without interest and BPA repays highest interest-bearing investment first, irrigation assistance is generally scheduled to be repaid in the last year of the repayment period on each reclamation project. BPA made its first payment of $25.1 million in 1997. A payment of $7.2 million is due in 2009. No payments are due in the FY 2010-2011 rate period.

## 9.5 Columbia Basin and Green Springs

At Columbia Basin, the Department of Interior issued an Interim Cost Allocation Report that resulted in a reallocation to power of plant previously associated with irrigation (directly as irrigation or indirectly as common general plant). As a result, the investment at the project for which power rates are responsible increased by $69.2 million, and there was a decrease in irrigation assistance of $98.3 million. In addition, Green Springs (Rogue River Irrigation Project), a project in southern Oregon, with investment of $11.17 million, was added to the FCRPS. Irrigation assistance was increased by $9.9 million for this project.

# United States Department of the Interior

TAKE PRIDE IN AMERICA

BUREAU OF RECLAMATION
Pacific Northwest Region
1150 North Curtis Road, Suite 100
Boise, Idaho 83706-1234

IN REPLY REFER TO:

PN-7828
WTR-4.00

JUL 22 2008

Bonneville Power Administration
Attention: Ms. Lisa Kaiser, KSRD-2
P.O. Box 3621
Portland, OR 97208-3621

Subject: Federal Columbia River Power Systems Assistance to Authorized Bureau of Reclamation Irrigation Projects in the Pacific Northwest, Fiscal Year 2007

Dear Ms. Kaiser:

Enclosed are three tables which summarize the schedule for repayment of irrigation assistance from the Federal Columbia River Power System (FCRPS) to authorized irrigation projects in the Pacific Northwest Region of the Bureau of Reclamation as of September 30, 2007. This information is being furnished as requested by your letter of September 7, 1966, and your agency's annual call for project cost data on Reclamation projects that are part of the FCRPS. Table 1 is a summary, in chronological order, for all authorized projects. Table 2 contains more detailed data for all projects except the Columbia Basin Project. Table 3 contains the detailed information for the Columbia Basin Project. The data on irrigation assistance reflects Reclamation cost data for fiscal year 2007.

As shown, the irrigation assistance for Boise, Palisades, Avondale, Dalton Gardens, and Rathdrum Prairie (Hayden Lake Unit) projects have been paid. The next project due for payment is the Mann Creek Project in 2008.

If you have any questions about this data, please call Ms. Kay Henson, Accounting Technician, at 208-378-5073.

Sincerely,

J. William McDonald

J. William McDonald
Regional Director

Enclosures-3

**Table 1**

**SUMMARY OF FINANCIAL ASSISTANCE TO IRRIGATION - FY 2006**

FY 2008

| PROJECT | FISCAL YEAR DUE | AMOUNT | CUMULATIVE |
|---|---|---|---|
| Boise | 1997 | 24,999 PAID-1997 | 24,999 |
| Palisades | 2001 | 16,560 PAID-2001 | 41,559 |
| Avondale | 2004 | 184 PAID-2004 | 41,743 |
| Dalton Gardens | 2004 | 208 PAID-2004 | 41,951 |
| Rathdrum Prairie | 2004 | 347 PAID-2004 | 42,298 |
| Mann Creek | 2008 | 2,950 | 45,248 |
| Columbia Basin | 2009 | 5,295 | 50,543 |
| Spokane Valley | 2009 | 1,979 | 52,522 |
| Columbia Basin | 2012 | 1,206 | 53,728 |
| Columbia Basin | 2013 | 60,027 | 113,755 |
| Columbia Basin | 2014 | 53,500 | 167,255 |
| Columbia Basin | 2015 | 53,053 | 220,308 |
| Columbia Basin | 2016 | 62,059 | 282,367 |
| Columbia Basin | 2017 | 50,132 | 332,499 |
| Greater Wenatchee | 2017 | 1,055 | 333,554 |
| Yakima, Roza | 2017 | 1,053 | 334,607 |
| Columbia Basin | 2018 | 26,585 | 361,192 |
| Foster Creek | 2018 | 675 | 361,867 |
| Yakima, Roza | 2018 | 729 | 362,596 |
| Columbia Basin | 2019 | 52,315 | 414,911 |
| Foster Creek | 2019 | 1,124 | 416,035 |
| Michaud Flats | 2019 | 2,081 | 418,116 |
| Michaud-Fort Hall | 2019 | 2,081 | 420,197 |
| Yakima, Roza | 2019 | 567 | 420,764 |
| Columbia Basin | 2020 | 22,621 | 443,385 |
| Crooked River | 2020 | 2,322 | 445,707 |
| Columbia Basin | 2021 | 10,329 | 456,036 |
| Yakima, Roza | 2021 | 2,025 | 458,061 |
| Columbia Basin | 2022 | 14,018 | 472,079 |
| Yakima, Roza | 2022 | 567 | 472,646 |
| Columbia Basin | 2023 | 10,059 | 482,705 |
| Rogue River | 2023 | 3,193 | 485,898 |
| Columbia Basin | 2024 | 8,020 | 493,918 |
| Greater Wenatchee | 2024 | 1,960 | 495,878 |
| Yakima, Kennewick | 2024 | 5,434 | 501,312 |
| Columbia Basin | 2025 | 12,808 | 514,120 |
| Crooked River Ext | 2025 | 1,092 | 515,212 |
| Whitestone Coulee Unit | 2026 | 3,810 | 519,022 |
| Columbia Basin | 2026 | 13,284 | 532,306 |
| Greater Wenatchee | 2026 | 901 | 533,207 |
| Yakima, Roza | 2026 | 3,159 | 536,366 |
| Columbia Basin | 2027 | 4,046 | 540,412 |
| Rogue River | 2027 | 2,129 | 542,541 |
| Columbia Basin | 2028 | 7,200 | 549,741 |
| The Dalles | 2028 | 4,204 | 553,945 |
| Baker | 2029 | 4,092 | 558,037 |
| Lower Teton | 2029 | 40,273 | 598,310 |
| East Greenacres | 2030 | 2,187 | 600,497 |
| Columbia Basin | 2031 | 10,851 | 611,348 |
| Rogue River | 2033 | 4,354 | 615,702 |
| Columbia Basin | 2035 | 8,004 | 623,706 |
| Whitestone Coulee Unit | 2036 | 3,660 | 627,366 |
| Manson Unit | 2036 | 16,163 | 643,529 |
| Tualatin | 2036 | 9,124 | 652,653 |
| East Greenacres | 2037 | 4,246 | 656,899 |
| Columbia Basin | 2037 | 12,443 | 669,342 |
| Tualatin | 2039 | 14,270 | 683,612 |
| Oroville Tonasket | 2042 | 73,659 | 757,271 |
| Columbia Basin | 2045 | 11,940 | 769,211 |

**Table 2 - - Irrigation Assistance -- Fiscal Year 2007**
(All Projects Except Columbia Basin Project)

| PROJECT | Irrigated Acres | Initial Testing Year Calendar Ye: | Development Period Calendar Ye: | Water Users Repayment Period Calendar Yea | Total Irrigation Allocation ($1,000) | Irrigation Assistance Required From FCRPS ($1,000) | Year Assistance Is Due Fiscal Year |
|---|---|---|---|---|---|---|---|
| In Service as of Sept. 30, 2007 | | | | | | | |
| Boise | 390,126 | -- | -- | -- | 69,629 | 24,999 | **PAID 1997** |
| Palisades | 528,397 | -- | -- | 1961-2000 | 29,834 | 16,560 | **PAID 2001** |
| Avondale | 922 | -- | -- | 1964-2003 | 573 | 184 | **PAID 2004** |
| Dalton Gardens | 944 | -- | -- | 1964-2003 | 564 | 208 | **PAID 2004** |
| Rathdrum Prairie, Hayden Lake | 5,010 | -- | None | 1964-2003 | 1,233 | 347 | **PAID 2004** |
| Mann Creek Project | 5,110 | | None | 1968-2007 | 3,763 | 2,950 | 2008 |
| Spokane Valley Project | 7,241 | 1966-68 | None | 1969-2008 | 5,132 | 1,979 | 2009 |
| Yakima Project, Roza Division | | | | | | | |
| Block 1 | 9,292 | -- | -- | 1942-2016 | -- | 1,053 | 2017 |
| Block 2 | 6,628 | -- | -- | 1943-2017 | -- | 729 | 2018 |
| Block 3 | 4,858 | -- | -- | 1944-2018 | -- | 567 | 2019 |
| Block 4 | 17,976 | -- | -- | 1946-2020 | -- | 2,025 | 2021 |
| Blocks 5 & 6 | 5,362 | -- | -- | 1947-2021 | -- | 567 | 2022 |
| Block 7 | 27,395 | -- | -- | 1951-2025 | -- | 3,159 | 2026 |
| Total | 71,511 | | | | 27,355 | 8,100 | |
| Chief Joseph Dam Project | | | | | | | |
| Greater Wenatchee Division | | | | | | | |
| Block 1 East Unit | -- | 1963 | 1964-66 | 1967-2016 | -- | 1,055 | 2017 |
| Blocks 2&3 East & Howard Flat | -- | 1963 | 1964-73 | 1974-2023 | -- | 1,960 | 2024 |
| Block 4 Brays Landing | -- | 1965 | 1966-75 | 1976-2025 | -- | 901 | 2026 |
| Total | 7,104 | | | | 8,664 | 3,916 | |
| Chief Joseph Dam Project | | | | | | | |
| Bridgeport Bar Dist. | -- | 1957 | 1958-67 | 1968-2017 | 780 | 675 | 2018 |
| Brewester Flat Dist. | -- | 1958 | 1959-68 | 1969-2018 | 2,591 | 1,124 | 2019 |
| Total | 2,854 | | | | 3,371 | 1,799 | |
| Michaud Flats Project | 11,000 | 1958 | 1959-68 | 1969-2018 | 5,009 | 2,081 | 2019 |
| Michaud-Fort Hall | -- | -- | -- | -- | -- | 2,081 | 2019 |
| Crooked River Project | 20,410 | -- | 1963-69 | 1970-2019 | 7,019 | 2,322 | 2020 |
| Yakima Project, Kennewick Div. | 19,171 | 1957 | 1958-67 | 1958-2023 | 11,513 | 5,434 | 2024 |
| Crooked River Project | | | | | | | |
| Crooked River Extension | 2,890 | 1967 | 1968-74 | 1975-2024 | 2,096 | 1,092 | 2025 |

**Table 3**
**Columbia Basin Project - FY2007**

IRRIGATION ASSISTANCE REQUIRED FOR COSTS INCURRED TO 9-30-07

| | | |
|---|---|---|
| ALLOCATION TO IRRIGATION | 651,222,238.00 | From SOCCRS, total Cost |
| LESS MASTER WATER SERVICE CONTRACT COSTS | -49,495,697.00 | Adjustment for $pd by WSC |
| TOTAL IRRIGATION COSTS SUBJECT TO IRRIGATION ASSISTANCE | 601,726,541.00 | |
| LESS PART-TIME FARM UNITS | -500,000 | |
| LESS REPAYMENT BY IRRIGATION DISTRICTS | -72,866,168 | |
| LESS STATE OF WASHINGTON CONTRIBUTIONS | -15,000,000 | |
| LESS OTHER CONTRIBUTIONS | -3,564,755 | |
| TOTAL ASSISTANCE REQUIRED | 509,795,618 | |

| BLOCK | 1ST YEAR OF DEVELOP | 1ST YEAR OF REPAYMENT | ACRES | AMOUNT DUE | FY $ IS DUE |
|---|---|---|---|---|---|
| 1 | 1949 | 1959 | 5,790 | 5,294,604 | 2,009 |
| 2 | 1952 | 1962 | 1,319 | 1,206,145 | 2,012 |
| 40, 41, 70, 701, 71, 72 | 1953 | 1963 | 65,644 | 60,027,454 | 2,013 |
| 11, 42, 49, 73 | 1954 | 1964 | 58,506 | 53,500,186 | 2,014 |
| 12, 15, 43, 74, 75 | 1955 | 1965 | 58,017 | 53,053,026 | 2,015 |
| 13, 16, 44, 76, 78 | 1956 | 1966 | 67,866 | 62,059,338 | 2,016 |
| 19, 45, 86, 87 | 1957 | 1967 | 54,823 | 50,132,306 | 2,017 |
| 421, 47, 89 | 1958 | 1968 | 29,073 | 26,585,494 | 2,018 |
| 3, 14, 18, 401, 46, 77, 79 | 1959 | 1969 | 57,210 | 52,315,073 | 2,019 |
| 20,85 | 1960 | 1970 | 24,738 | 22,621,400 | 2,020 |
| 82, 881 | 1961 | 1971 | 11,295 | 10,328,592 | 2,021 |
| 201, 83, 88 | 1962 | 1972 | 15,330 | 14,018,355 | 2,022 |
| 80 | 1963 | 1973 | 11,000 | 10,058,832 | 2,023 |
| 23 | 1964 | 1974 | 8,770 | 8,019,633 | 2,024 |
| 17 | 1965 | 1975 | 14,006 | 12,807,546 | 2,025 |
| 741, 81 | 1966 | 1976 | 14,527 | 13,284,243 | 2,026 |
| 161 | 1967 | 1977 | 4,425 | 4,046,211 | 2,027 |
| 21, 48 | 1968 | 1978 | 7,874 | 7,199,929 | 2,028 |
| 25 | 1971 | 1981 | 11,867 | 10,851,286 | 2,031 |
| 251 | 1975 | 1985 | 8,752 | 8,003,539 | 2,035 |
| 253, 24 | 1977 | 1987 | 13,607 | 12,442,593 | 2,037 |
| 26, 461 | 1985 | 1995 | 13,057 | 11,939,834 | 2,045 |
| **TOTALS** | | | 557,495 | **509,795,618** | |
| | | | 914.44 | **509,795,618** | |
| RATE PER ACRE | 914.44 | | | | |

# 10. REPLACEMENTS PROJECTED AFTER THE COST EVALUATION PERIOD

## 10.1 Introduction

This chapter documents the process used to project the amount of additional capital investment necessary to maintain an existing Federal project at its current operating level after the Cost Evaluation Period. This chapter also includes replacement costs for CGS. Replacement forecasts are included in repayment studies as required by RA 6120.2.

## 10.2 Methodology

The repayment study incorporates a schedule of Federal investment with the replacements that are expected to occur over the repayment period for existing generation projects. This schedule, expressed in mid-year dollars for each repayment study, FY 2010 through 2011, is based on the amount of investment in the generating projects for the COE and Reclamation through the end of the cost evaluation period.

The data received from the COE and Reclamation are expressed in constant year dollars. The COE estimates its replacement costs for each piece of equipment by project, and by expected service life. Each piece of equipment has a life of 50 years or less as determined by engineering studies. A few years ago, Electric Power Research Institute (EPRI) worked with the COE and did a study that confirmed that the replacement years currently in place are proper.

The Reclamation estimates its replacements' costs by project and by expected service life to create a single figure for each service life category. The Reclamation's estimated costs of replacements are obtained from two sources: (1) program schedules reflecting a budget based on anticipated need and condition of facilities, and (2) computer printouts covering the long range estimates of replacements. The replacements are a product of the Reclamation’s indexed capitalized replacement investments procedure, which provides for replacement of original facilities at current costs based on the latest cost indices. The cumulative reimbursable power investments are distributed into various FERC accounts for input into the replacement study. Reclamation personnel, located in the Engineering and Research Center at Denver, Colorado, compute the latest cost indices.

In order to incorporate projected replacements into the repayment study, an in-service date is calculated when the replacements for the COE and Reclamation are to begin. Each project's actual in-service date, for each of its respective generating units, is observed and a weighted average in-service date, for each project, is determined by weighting the number of generating units by the in-service years associated with those particular units.

A schedule of replacement investments for CGS is based on the original investment adjusted by the use of the Handy-Whitman indices for a nuclear power plant. The Handy-Whitman Index is widely used in industry for estimating replacement costs for plant. The result of this calculation was converted into a mortgage-style investment with payments sufficient to retire the replacement cost in 35 years.

## Table 10A: Corps/Reclamation Replacments (FY 2010)
## ($000s)

| | A | B | C | D |
|---|---|---|---|---|
| 1 | In Service Date | Current Principal | Interest Rate | Due Date |
| 2 | 2010 | 126,180 | 6.540% | 2055 |
| 3 | 2011 | 117,932 | 6.540% | 2056 |
| 4 | 2012 | 110,125 | 6.540% | 2057 |
| 5 | 2013 | 102,832 | 6.540% | 2058 |
| 6 | 2014 | 103,207 | 6.540% | 2059 |
| 7 | 2015 | 103,601 | 6.540% | 2060 |
| 8 | 2016 | 103,993 | 6.540% | 2061 |
| 9 | 2017 | 104,447 | 6.540% | 2062 |
| 10 | 2018 | 104,961 | 6.540% | 2063 |
| 11 | 2019 | 105,532 | 6.540% | 2064 |
| 12 | 2020 | 106,154 | 6.540% | 2065 |
| 13 | 2021 | 106,827 | 6.540% | 2066 |
| 14 | 2022 | 107,545 | 6.540% | 2067 |
| 15 | 2023 | 95,731 | 6.540% | 2068 |
| 16 | 2024 | 85,358 | 6.540% | 2069 |
| 17 | 2025 | 76,207 | 6.540% | 2070 |
| 18 | 2026 | 68,142 | 6.540% | 2071 |
| 19 | 2027 | 61,037 | 6.540% | 2072 |
| 20 | 2028 | 54,710 | 6.540% | 2073 |
| 21 | 2029 | 49,119 | 6.540% | 2074 |
| 22 | 2030 | 44,228 | 6.540% | 2075 |
| 23 | 2031 | 39,875 | 6.540% | 2076 |
| 24 | 2032 | 36,033 | 6.540% | 2077 |
| 25 | 2033 | 51,481 | 6.540% | 2078 |
| 26 | 2034 | 51,949 | 6.540% | 2079 |
| 27 | 2035 | 52,461 | 6.540% | 2080 |
| 28 | 2036 | 52,957 | 6.540% | 2081 |
| 29 | 2037 | 53,494 | 6.540% | 2082 |
| 30 | 2038 | 54,070 | 6.540% | 2083 |
| 31 | 2039 | 54,684 | 6.540% | 2084 |
| 32 | 2040 | 55,280 | 6.540% | 2085 |
| 33 | 2041 | 55,911 | 6.540% | 2086 |
| 34 | 2042 | 56,577 | 6.540% | 2087 |
| 35 | 2043 | 53,302 | 6.540% | 2088 |
| 36 | 2044 | 50,220 | 6.540% | 2089 |
| 37 | 2045 | 47,374 | 6.540% | 2090 |
| 38 | 2046 | 44,703 | 6.540% | 2091 |
| 39 | 2047 | 42,201 | 6.540% | 2092 |
| 40 | 2048 | 39,862 | 6.540% | 2093 |
| 41 | 2049 | 35,966 | 6.540% | 2094 |
| 42 | 2050 | 32,499 | 6.540% | 2095 |
| 43 | 2051 | 29,444 | 6.540% | 2096 |
| 44 | 2052 | 26,740 | 6.540% | 2097 |
| 45 | 2053 | 41,875 | 6.540% | 2098 |
| 46 | 2054 | 42,436 | 6.540% | 2099 |
| 47 | 2055 | 43,028 | 6.540% | 2100 |
| 48 | 2056 | 43,649 | 6.540% | 2101 |
| 49 | 2057 | 44,255 | 6.540% | 2102 |
| 50 | 2058 | 44,890 | 6.540% | 2103 |
| 51 | 2059 | 45,553 | 6.540% | 2104 |

## Table 10B: Corps/Reclamation Replacements (FY 2011)
## ($000s)

| | A | B | C | D |
|---|---|---|---|---|
| 1 | In Service Date | Current Principal | Interest Rate | Due Date |
| 2 | 2011 | 120,494 | 6.780% | 2056 |
| 3 | 2012 | 112,517 | 6.780% | 2057 |
| 4 | 2013 | 105,066 | 6.780% | 2058 |
| 5 | 2014 | 105,449 | 6.780% | 2059 |
| 6 | 2015 | 105,852 | 6.780% | 2060 |
| 7 | 2016 | 106,251 | 6.780% | 2061 |
| 8 | 2017 | 106,715 | 6.780% | 2062 |
| 9 | 2018 | 107,240 | 6.780% | 2063 |
| 10 | 2019 | 107,824 | 6.780% | 2064 |
| 11 | 2020 | 108,460 | 6.780% | 2065 |
| 12 | 2021 | 109,147 | 6.780% | 2066 |
| 13 | 2022 | 109,881 | 6.780% | 2067 |
| 14 | 2023 | 97,810 | 6.780% | 2068 |
| 15 | 2024 | 87,212 | 6.780% | 2069 |
| 16 | 2025 | 77,863 | 6.780% | 2070 |
| 17 | 2026 | 69,622 | 6.780% | 2071 |
| 18 | 2027 | 62,363 | 6.780% | 2072 |
| 19 | 2028 | 55,898 | 6.780% | 2073 |
| 20 | 2029 | 50,186 | 6.780% | 2074 |
| 21 | 2030 | 45,188 | 6.780% | 2075 |
| 22 | 2031 | 40,741 | 6.780% | 2076 |
| 23 | 2032 | 36,816 | 6.780% | 2077 |
| 24 | 2033 | 52,599 | 6.780% | 2078 |
| 25 | 2034 | 53,078 | 6.780% | 2079 |
| 26 | 2035 | 53,600 | 6.780% | 2080 |
| 27 | 2036 | 54,107 | 6.780% | 2081 |
| 28 | 2037 | 54,656 | 6.780% | 2082 |
| 29 | 2038 | 55,244 | 6.780% | 2083 |
| 30 | 2039 | 55,872 | 6.780% | 2084 |
| 31 | 2040 | 56,480 | 6.780% | 2085 |
| 32 | 2041 | 57,125 | 6.780% | 2086 |
| 33 | 2042 | 57,806 | 6.780% | 2087 |
| 34 | 2043 | 54,460 | 6.780% | 2088 |
| 35 | 2044 | 51,311 | 6.780% | 2089 |
| 36 | 2045 | 48,402 | 6.780% | 2090 |
| 37 | 2046 | 45,674 | 6.780% | 2091 |
| 38 | 2047 | 43,118 | 6.780% | 2092 |
| 39 | 2048 | 40,728 | 6.780% | 2093 |
| 40 | 2049 | 36,747 | 6.780% | 2094 |
| 41 | 2050 | 33,205 | 6.780% | 2095 |
| 42 | 2051 | 30,083 | 6.780% | 2096 |
| 43 | 2052 | 27,321 | 6.780% | 2097 |
| 44 | 2053 | 42,785 | 6.780% | 2098 |
| 45 | 2054 | 43,358 | 6.780% | 2099 |
| 46 | 2055 | 43,962 | 6.780% | 2100 |
| 47 | 2056 | 44,597 | 6.780% | 2101 |
| 48 | 2057 | 45,216 | 6.780% | 2102 |
| 49 | 2058 | 45,864 | 6.780% | 2103 |
| 50 | 2059 | 46,542 | 6.780% | 2104 |
| 51 | 2060 | 47,245 | 6.780% | 2105 |

## Table 10C: Columbia Generating Station Replacements
## ($000s)

| | A | B | C | D |
|---|---|---|---|---|
| 1 | Fiscal Year | Principal | Interest | Total Debt Service |
| 2 | 2024 | 8,230 | 75,944 | 84,174 |
| 3 | 2025 | 33,483 | 303,250 | 336,733 |
| 4 | 2026 | 35,777 | 301,104 | 336,880 |
| 5 | 2027 | 38,228 | 298,810 | 337,038 |
| 6 | 2028 | 40,846 | 296,360 | 337,206 |
| 7 | 2029 | 43,644 | 293,742 | 337,386 |
| 8 | 2030 | 46,634 | 290,944 | 337,578 |
| 9 | 2031 | 49,828 | 287,955 | 337,783 |
| 10 | 2032 | 53,242 | 284,761 | 338,003 |
| 11 | 2033 | 56,889 | 281,348 | 338,237 |
| 12 | 2034 | 60,785 | 277,702 | 338,487 |
| 13 | 2035 | 64,949 | 273,805 | 338,754 |
| 14 | 2036 | 69,398 | 269,642 | 339,040 |
| 15 | 2037 | 74,152 | 265,194 | 339,345 |
| 16 | 2038 | 79,231 | 260,441 | 339,672 |
| 17 | 2039 | 84,659 | 255,362 | 340,020 |
| 18 | 2040 | 90,458 | 249,935 | 340,393 |
| 19 | 2041 | 96,654 | 244,137 | 340,791 |
| 20 | 2042 | 103,275 | 237,941 | 341,216 |
| 21 | 2043 | 110,349 | 231,321 | 341,670 |
| 22 | 2044 | 117,908 | 224,248 | 342,156 |
| 23 | 2045 | 125,984 | 216,690 | 342,674 |
| 24 | 2046 | 134,615 | 208,615 | 343,229 |
| 25 | 2047 | 143,836 | 199,986 | 343,822 |
| 26 | 2048 | 153,689 | 190,766 | 344,454 |
| 27 | 2049 | 164,216 | 180,915 | 345,131 |
| 28 | 2050 | 175,465 | 170,388 | 345,854 |
| 29 | 2051 | 187,485 | 159,141 | 346,625 |
| 30 | 2052 | 200,327 | 147,123 | 347,450 |
| 31 | 2053 | 214,049 | 134,282 | 348,331 |
| 32 | 2054 | 228,712 | 120,562 | 349,273 |
| 33 | 2055 | 244,379 | 105,901 | 350,280 |
| 34 | 2056 | 261,118 | 90,237 | 351,355 |
| 35 | 2057 | 279,005 | 73,499 | 352,503 |
| 36 | 2058 | 298,117 | 55,615 | 353,731 |
| 37 | 2059 | 318,538 | 36,505 | 355,043 |
| 38 | 2060 | 250,970 | 16,087 | 267,057 |

# 11. DEBT OPTIMIZATION DEMONSTRATION

## 11.1 Background

In FY 2001 BPA began carrying out the Debt Optimization (DO) Program in conjunction with Energy Northwest (EN) as a means for BPA to replenish its Treasury borrowing authority. The basic mechanism of the DO 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.

## 11.2 DO Demonstration and Slice Settlement Agreement

BPA has committed to manage the DO program in a manner such that rates are no higher with DO than they would be in the absence of DO. BPA complies with this commitment by conducting annual DO 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 DO 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 DO.

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. This demonstration is contained in the tables described below. Also, as called for in the agreement, Sections B-1 through B-4 of Exhibit D, the Memorandum of Understanding Concerning the BPA Debt Optimization Program, of the MOU has been included as Attachment A of this chapter.

## 11.3 The Demonstration Tables

Table 11A is the comparison of the results of the two repayment studies. Column A is the total levelized debt service calculated in the generation base repayment study. Column B is the total levelized debt service calculated in the generation debt optimization repayment study. It matches Column A of Table 11E. Column C shows the difference between columns A and B.

Table 11B summarizes the results of the generation base repayment study. This study incorporates all debt management transactions made on behalf of generation through September 30, 2008. It does not include projections of future DO 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 irrigation assistance as scheduled by the repayment study. Column F is the revenue surplus.

Table 11C shows the projected Federal investments used in the twenty-year study.

Table 11D displays the projected Energy Northwest net debt service associated with new capital additions at CGS. It does not include any projection of future DO actions. 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.

Table 11E contains the results of the generation debt optimization repayment study. This study incorporates all elements from the base study noted above, plus the DO projections for the current and upcoming fiscal years. Incorporating future DO into this study is the only difference between this and the base study. The table is laid out in the same manner as Table 11-2, Summary of Base Repayment Study.

Table 11F shows the projected Federal investments used in the twenty-year study, which matches the projections shown in Table 11-3.

Table 11G shows the projected Energy Northwest net debt service associated with the projected DO bonds and new capital additions for CGS, respectively. 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.

## 11.4 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 11A: Comparison of Generation Repayment Studies
## ($000s)

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Fiscal Year** | **Base Total Debt Service** | **Debt Optimization Total Debt Service** | **Delta** |
| 2 | 2009 | 927,545 | 926,063 | (1,482) |
| 3 | 2010 | 1,035,036 | 1,031,890 | (3,146) |
| 4 | 2011 | 1,057,598 | 1,054,513 | (3,086) |
| 5 | 2012 | 1,099,500 | 1,099,010 | (490) |
| 6 | 2013 | 1,120,010 | 1,119,520 | (490) |
| 7 | 2014 | 1,139,510 | 1,139,021 | (489) |
| 8 | 2015 | 1,151,807 | 1,151,318 | (489) |
| 9 | 2016 | 1,160,090 | 1,159,600 | (490) |
| 10 | 2017 | 1,159,377 | 1,158,887 | (490) |
| 11 | 2018 | 1,031,618 | 1,031,130 | (488) |
| 12 | 2019 | 793,180 | 792,421 | (759) |
| 13 | 2020 | 803,230 | 802,472 | (758) |
| 14 | 2021 | 811,854 | 811,098 | (756) |
| 15 | 2022 | 821,810 | 821,055 | (755) |
| 16 | 2023 | 830,450 | 829,697 | (753) |
| 17 | 2024 | 838,395 | 837,642 | (753) |
| 18 | 2025 | 847,460 | 846,703 | (757) |
| 19 | 2026 | 857,828 | 857,071 | (757) |
| 20 | 2027 | 865,535 | 864,777 | (758) |
| 21 | 2028 | 884,191 | 883,433 | (758) |
| 22 | **Total** | | | **(18,704)** |

## Table 11B: Summary of Base Repayment Study
## ($000s)

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | **Fiscal Year** | **Total Debt Service** | **3rd Party Debt Service** | **Federal Gross Interest** | **Federal Amortization** | **Irrigation Assistance** | **Rev. Surplus** | |
| 2 | | 2009 | 927,545 | 564,348 | 252,858 | 103,065 | 7,274 | - | |
| 3 | | 2010 | 1,035,036 | 556,312 | 261,460 | 217,264 | - | - | |
| 4 | | 2011 | 1,057,598 | 576,632 | 269,078 | 211,888 | - | - | |
| 5 | | 2012 | 1,099,500 | 667,909 | 283,602 | 146,783 | 1,206 | - | |
| 6 | | 2013 | 1,120,010 | 614,853 | 299,441 | 145,689 | 60,027 | - | |
| 7 | | 2014 | 1,139,510 | 611,170 | 316,299 | 158,542 | 53,500 | 0 | |
| 8 | | 2015 | 1,151,807 | 584,085 | 329,600 | 128,893 | 109,228 | 0 | |
| 9 | | 2016 | 1,160,090 | 721,932 | 340,937 | 39,100 | 58,120 | 0 | |
| 10 | | 2017 | 1,159,377 | 759,480 | 352,293 | 47,601 | 4 | - | |
| 11 | | 2018 | 1,031,618 | 594,501 | 361,528 | 47,600 | 27,989 | - | |
| 12 | | 2019 | 793,180 | 110,481 | 365,939 | 258,592 | 58,168 | 0 | |
| 13 | | 2020 | 803,230 | 213,193 | 364,116 | 200,977 | 24,943 | - | |
| 14 | | 2021 | 811,854 | 216,226 | 364,141 | 219,133 | 12,354 | 0 | |
| 15 | | 2022 | 821,810 | 218,521 | 362,349 | 226,355 | 14,585 | - | |
| 16 | | 2023 | 830,450 | 221,944 | 360,303 | 234,951 | 13,252 | 0 | |
| 17 | | 2024 | 838,395 | 264,533 | 358,911 | 199,537 | 15,414 | - | |
| 18 | | 2025 | 847,460 | 373,987 | 363,128 | 96,445 | 13,900 | 0 | |
| 19 | | 2026 | 857,828 | 373,775 | 372,109 | 90,790 | 21,154 | - | |
| 20 | | 2027 | 865,535 | 373,935 | 381,050 | 104,376 | 6,175 | 0 | |
| 21 | | 2028 | 884,191 | 374,088 | 389,048 | 109,651 | 11,404 | - | |
| 22 | | **Total** | **$19,236,024** | **$8,617,818** | **$6,359,142** | **$2,877,580** | **$497,293** | **$0** | |

**Table 11C: Projected Federal Investments in Base Study ($000s)**

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Project | Original Principal | Current Principal | Interest Rate | Due Date | Replacement? | In Service Date | Month | Rollover Date | Rollover Rate |
| 2 | COLUMBIA RIVER FISH MITIGATION | 110,000 | 110,000 | 4.380% | 2060 | No | 2009 | - | - | - |
| 3 | COLUMBIA RIVER FISH MITIGATION | 88,000 | 88,000 | 5.290% | 2060 | No | 2010 | - | - | - |
| 4 | COLUMBIA RIVER FISH MITIGATION | 96,000 | 96,000 | 5.730% | 2061 | No | 2011 | - | - | - |
| 5 | COLUMBIA RIVER FISH MITIGATION | 50,000 | 50,000 | 5.790% | 2062 | No | 2012 | - | - | - |
| 6 | COLUMBIA RIVER FISH MITIGATION | 124,288 | 124,288 | 5.790% | 2063 | No | 2013 | - | - | - |
| 7 | COLUMBIA RIVER FISH MITIGATION | 59,608 | 59,608 | 5.790% | 2064 | No | 2014 | - | - | - |
| 8 | COLUMBIA RIVER FISH MITIGATION | 9,345 | 9,345 | 5.790% | 2065 | No | 2015 | - | - | - |
| 9 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.000% | 2066 | No | 2016 | - | - | - |
| 10 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.760% | 2067 | No | 2017 | - | - | - |
| 11 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.810% | 2068 | No | 2018 | - | - | - |
| 12 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.920% | 2069 | No | 2019 | - | - | - |
| 13 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.010% | 2070 | No | 2020 | - | - | - |
| 14 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.140% | 2071 | No | 2021 | - | - | - |
| 15 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.180% | 2072 | No | 2022 | - | - | - |
| 16 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.260% | 2073 | No | 2023 | - | - | - |
| 17 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.330% | 2074 | No | 2024 | - | - | - |
| 18 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.330% | 2075 | No | 2025 | - | - | - |
| 19 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2076 | No | 2026 | - | - | - |
| 20 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2077 | No | 2027 | - | - | - |
| 21 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2078 | No | 2028 | - | - | - |
| 22 | BPA PROGRAM | 16,500 | 12,714 | 5.350% | 2044 | No | 2009 | 3 | - | - |
| 23 | BPA PROGRAM | 13,871 | 13,871 | 6.790% | 2045 | No | 2010 | 3 | - | - |
| 24 | BPA PROGRAM | 14,950 | 14,950 | 6.930% | 2046 | No | 2011 | 3 | - | - |
| 25 | BPA PROGRAM | 15,041 | 15,041 | 6.690% | 2047 | No | 2012 | 3 | - | - |
| 26 | BPA PROGRAM | 15,099 | 15,099 | 6.690% | 2048 | No | 2013 | 3 | - | - |
| 27 | BPA PROGRAM | 15,176 | 15,176 | 6.690% | 2049 | No | 2014 | 3 | - | - |
| 28 | BPA PROGRAM | 15,935 | 15,935 | 6.690% | 2050 | No | 2015 | 3 | - | - |
| 29 | BPA PROGRAM | 12,357 | 12,357 | 6.690% | 2051 | No | 2016 | 3 | - | - |
| 30 | BPA PROGRAM | 12,384 | 12,384 | 6.690% | 2052 | No | 2017 | 3 | - | - |
| 31 | BPA PROGRAM | 12,410 | 12,410 | 6.690% | 2053 | No | 2018 | 3 | - | - |
| 32 | BPA PROGRAM | 12,437 | 12,437 | 6.690% | 2054 | No | 2019 | 3 | - | - |
| 33 | BPA PROGRAM | 12,462 | 12,462 | 6.690% | 2055 | No | 2020 | 3 | - | - |
| 34 | BPA PROGRAM | 12,487 | 12,487 | 6.690% | 2056 | No | 2021 | 3 | - | - |
| 35 | BPA PROGRAM | 12,512 | 12,512 | 6.690% | 2057 | No | 2022 | 3 | - | - |
| 36 | BPA PROGRAM | 12,537 | 12,537 | 6.690% | 2058 | No | 2023 | 3 | - | - |
| 37 | BPA PROGRAM | 12,562 | 12,562 | 6.690% | 2059 | No | 2024 | 3 | - | - |
| 38 | BPA PROGRAM | 12,587 | 12,587 | 6.690% | 2060 | No | 2025 | 3 | - | - |
| 39 | BPA PROGRAM | 12,612 | 12,612 | 6.690% | 2061 | No | 2026 | 3 | - | - |
| 40 | BPA PROGRAM | 12,637 | 12,637 | 6.690% | 2062 | No | 2027 | 3 | - | - |
| 41 | BPA PROGRAM | 13,016 | 13,016 | 6.690% | 2063 | No | 2028 | 3 | - | - |
| 42 | BUREAU DIRECT FUND | 133,238 | 133,238 | 5.350% | 2054 | No | 2009 | 3 | - | - |
| 43 | BUREAU DIRECT FUND | 157,850 | 157,850 | 6.790% | 2055 | No | 2010 | 3 | - | - |
| 44 | BUREAU DIRECT FUND | 170,850 | 170,850 | 6.930% | 2056 | No | 2011 | 3 | - | - |
| 45 | BUREAU DIRECT FUND | 178,500 | 178,500 | 6.690% | 2057 | No | 2012 | 3 | - | - |
| 46 | BUREAU DIRECT FUND | 188,700 | 188,700 | 6.690% | 2058 | No | 2013 | 3 | - | - |
| 47 | BUREAU DIRECT FUND | 190,400 | 190,400 | 6.690% | 2059 | No | 2014 | 3 | - | - |
| 48 | BUREAU DIRECT FUND | 192,100 | 192,100 | 6.690% | 2060 | No | 2015 | 3 | - | - |
| 49 | BUREAU DIRECT FUND | 105,000 | 105,000 | 6.690% | 2061 | No | 2016 | 3 | - | - |
| 50 | BUREAU DIRECT FUND | 110,000 | 110,000 | 6.690% | 2062 | No | 2017 | 3 | - | - |
| 51 | BUREAU DIRECT FUND | 110,000 | 110,000 | 6.690% | 2063 | No | 2018 | 3 | - | - |
| 52 | BUREAU DIRECT FUND | 113,000 | 113,000 | 6.690% | 2064 | No | 2019 | 3 | - | - |
| 53 | BUREAU DIRECT FUND | 115,000 | 115,000 | 6.690% | 2065 | No | 2020 | 3 | - | - |
| 54 | BUREAU DIRECT FUND | 118,000 | 118,000 | 6.690% | 2066 | No | 2021 | 3 | - | - |
| 55 | BUREAU DIRECT FUND | 121,000 | 121,000 | 6.690% | 2067 | No | 2022 | 3 | - | - |
| 56 | BUREAU DIRECT FUND | 124,000 | 124,000 | 6.690% | 2068 | No | 2023 | 3 | - | - |
| 57 | BUREAU DIRECT FUND | 127,000 | 127,000 | 6.690% | 2069 | No | 2024 | 3 | - | - |
| 58 | BUREAU DIRECT FUND | 130,000 | 130,000 | 6.690% | 2070 | No | 2025 | 3 | - | - |
| 59 | BUREAU DIRECT FUND | 133,900 | 133,900 | 6.690% | 2071 | No | 2026 | 3 | - | - |
| 60 | BUREAU DIRECT FUND | 137,917 | 137,917 | 6.690% | 2072 | No | 2027 | 3 | - | - |
| 61 | BUREAU DIRECT FUND | 142,055 | 142,055 | 6.690% | 2073 | No | 2028 | 3 | - | - |
| 62 | CONSERVATION | 27,200 | 27,200 | 3.660% | 2014 | No | 2009 | 3 | - | - |
| 63 | CONSERVATION | 32,300 | 32,300 | 4.930% | 2015 | No | 2010 | 3 | - | - |
| 64 | CONSERVATION | 39,100 | 39,100 | 5.560% | 2016 | No | 2011 | 3 | - | - |
| 65 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2017 | No | 2012 | 3 | - | - |
| 66 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2018 | No | 2013 | 3 | - | - |
| 67 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2019 | No | 2014 | 3 | - | - |
| 68 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2020 | No | 2015 | 3 | - | - |
| 69 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2021 | No | 2016 | 3 | - | - |
| 70 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2022 | No | 2017 | 3 | - | - |
| 71 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2023 | No | 2018 | 3 | - | - |
| 72 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2024 | No | 2019 | 3 | - | - |
| 73 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2025 | No | 2020 | 3 | - | - |
| 74 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2026 | No | 2021 | 3 | - | - |
| 75 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2027 | No | 2022 | 3 | - | - |
| 76 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2028 | No | 2023 | 3 | - | - |

**Table 11C: Projected Federal Investments in Base Study ($000s)**

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Project** | **Original Principal** | **Current Principal** | **Interest Rate** | **Due Date** | **Replacement?** | **In Service Date** | **Month** | **Rollover Date** | **Rollover Rate** |
| 77 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2029 | No | 2024 | 3 | - | - |
| 78 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2030 | No | 2025 | 3 | - | - |
| 79 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2031 | No | 2026 | 3 | - | - |
| 80 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2032 | No | 2027 | 3 | - | - |
| 81 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2033 | No | 2028 | 3 | - | - |
| 82 | FISH, WILDLIFE | 50,000 | 50,000 | 4.720% | 2024 | No | 2009 | 3 | - | - |
| 83 | FISH, WILDLIFE | 70,000 | 70,000 | 4.930% | 2025 | No | 2010 | 3 | - | - |
| 84 | FISH, WILDLIFE | 60,000 | 60,000 | 6.220% | 2026 | No | 2011 | 3 | - | - |
| 85 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2027 | No | 2012 | 3 | - | - |
| 86 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2028 | No | 2013 | 3 | - | - |
| 87 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2029 | No | 2014 | 3 | - | - |
| 88 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2030 | No | 2015 | 3 | - | - |
| 89 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2031 | No | 2016 | 3 | - | - |
| 90 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2032 | No | 2017 | 3 | - | - |
| 91 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2033 | No | 2018 | 3 | - | - |
| 92 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2034 | No | 2019 | 3 | - | - |
| 93 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2035 | No | 2020 | 3 | - | - |
| 94 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2036 | No | 2021 | 3 | - | - |
| 95 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2037 | No | 2022 | 3 | - | - |
| 96 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2038 | No | 2023 | 3 | - | - |
| 97 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2039 | No | 2024 | 3 | - | - |
| 98 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2040 | No | 2025 | 3 | - | - |
| 99 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2041 | No | 2026 | 3 | - | - |
| 100 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2042 | No | 2027 | 3 | - | - |
| 101 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2043 | No | 2028 | 3 | - | - |

**Table 11D: Debt Service of Projected Energy Northwest Capital Additions**
**($000s)**

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Fiscal Year** | **Principal** | **Interest** | **Net New D/S** |
| 2 | 2009 | - | 1,346 | 1,346 |
| 3 | 2010 | - | 6,638 | 6,638 |
| 4 | 2011 | - | 11,145 | 11,145 |
| 5 | 2012 | 300 | 14,077 | 14,377 |
| 6 | 2013 | 1,345 | 16,565 | 17,910 |
| 7 | 2014 | 2,336 | 18,372 | 20,709 |
| 8 | 2015 | 4,261 | 20,322 | 24,583 |
| 9 | 2016 | 5,474 | 21,789 | 27,263 |
| 10 | 2017 | 7,129 | 23,837 | 30,965 |
| 11 | 2018 | 8,648 | 25,478 | 34,125 |
| 12 | 2019 | 21,761 | 27,602 | 49,363 |
| 13 | 2020 | 57,223 | 27,944 | 85,167 |
| 14 | 2021 | 61,338 | 26,853 | 88,191 |
| 15 | 2022 | 65,415 | 25,075 | 90,490 |
| 16 | 2023 | 69,991 | 23,512 | 93,504 |
| 17 | 2024 | 59,733 | 20,711 | 80,444 |
| 18 | 2025 | 19,330 | 17,554 | 36,884 |
| 19 | 2026 | 20,305 | 16,590 | 36,895 |
| 20 | 2027 | 21,334 | 15,563 | 36,897 |
| 21 | 2028 | 22,411 | 14,471 | 36,882 |
| 22 | 2029 | 23,574 | 13,311 | 36,885 |
| 23 | 2030 | 24,806 | 12,080 | 36,887 |
| 24 | 2031 | 26,113 | 10,774 | 36,886 |
| 25 | 2032 | 26,730 | 9,386 | 36,116 |
| 26 | 2033 | 25,356 | 7,956 | 33,312 |
| 27 | 2034 | 23,850 | 6,596 | 30,446 |
| 28 | 2035 | 20,345 | 5,332 | 25,677 |
| 29 | 2036 | 18,754 | 4,252 | 23,005 |
| 30 | 2037 | 16,060 | 3,252 | 19,312 |
| 31 | 2038 | 13,745 | 2,394 | 16,139 |
| 32 | 2039 | 10,420 | 1,658 | 12,078 |
| 33 | 2040 | 8,680 | 1,098 | 9,778 |
| 34 | 2041 | 6,126 | 631 | 6,757 |
| 35 | 2042 | 4,166 | 300 | 4,467 |
| 36 | 2043 | 1,373 | 75 | 1,447 |
| 37 | **TOTAL** | **698,430** | **454,542** | **1,152,972** |
| 38 | | | | |

## Table 11D: Debt Service of Projected Energy Northwest Capital Additions ($000s)

| | A | B | C | D |
|---|---|---|---|---|
| 39 | | | | |
| 40 | **Par Amounts Of Selected Issues** | | | |
| 41 | NEG2009AW2 | | | 76,385 |
| 42 | NEG2009BW2 | | | 25,465 |
| 43 | NEG2010AW2 | | | 69,040 |
| 44 | NEG2010BW2 | | | 23,015 |
| 45 | NEG2011AW2 | | | 41,020 |
| 46 | NEG2011BW2 | | | 13,675 |
| 47 | NEG2012AW2 | | | 38,215 |
| 48 | NEG2012BW2 | | | 12,740 |
| 49 | NEG2013AW2 | | | 24,355 |
| 50 | NEG2013BW2 | | | 8,120 |
| 51 | NEG2014AW2 | | | 33,540 |
| 52 | NEG2014BW2 | | | 11,180 |
| 53 | NEG2015AW2 | | | 20,320 |
| 54 | NEG2015BW2 | | | 6,775 |
| 55 | NEG2016AW2 | | | 37,300 |
| 56 | NEG2016BW2 | | | 12,435 |
| 57 | NEG2017AW2 | | | 24,190 |
| 58 | NEG2017BW2 | | | 8,065 |
| 59 | NEG2018AW2 | | | 43,915 |
| 60 | NEG2018BW2 | | | 14,640 |
| 61 | NEG2019AW2 | | | 17,750 |
| 62 | NEG2019BW2 | | | 5,920 |
| 63 | NEG2020AW2 | | | 31,135 |
| 64 | NEG2020BW2 | | | 10,380 |
| 65 | NEG2021AW2 | | | 17,750 |
| 66 | NEG2021BW2 | | | 5,920 |
| 67 | NEG2022AW2 | | | 31,135 |
| 68 | NEG2022BW2 | | | 10,380 |
| 69 | NEG2023AW2 | | | 17,750 |
| 70 | NEG2023BW2 | | | 5,920 |
| 71 | **TOTAL** | | | **698,430** |
| 72 | | | | |

# Table 11E: Summary of Debt Optimization Repayment Study
## ($000s)

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | Fiscal Year | Total Debt Service | 3rd Party Debt Service | Federal Gross Interest | Federal Amortization | Irrigation Assistance | Rev. Surplus | |
| 2 | | 2009 | 926,063 | 449,320 | 250,108 | 219,360 | 7,274 | - | |
| 3 | | 2010 | 1,031,890 | 561,380 | 253,245 | 217,264 | - | - | |
| 4 | | 2011 | 1,054,513 | 581,701 | 260,924 | 211,888 | - | - | |
| 5 | | 2012 | 1,099,010 | 672,978 | 275,409 | 149,417 | 1,206 | - | |
| 6 | | 2013 | 1,119,520 | 629,172 | 291,284 | 139,037 | 60,027 | - | |
| 7 | | 2014 | 1,139,021 | 663,417 | 309,518 | 112,586 | 53,500 | - | |
| 8 | | 2015 | 1,151,318 | 646,173 | 326,338 | 69,578 | 109,228 | - | |
| 9 | | 2016 | 1,159,600 | 721,932 | 340,448 | 39,100 | 58,120 | 0 | |
| 10 | | 2017 | 1,158,887 | 759,480 | 351,803 | 47,600 | 4 | - | |
| 11 | | 2018 | 1,031,130 | 594,501 | 361,039 | 47,600 | 27,989 | 1 | |
| 12 | | 2019 | 792,421 | 110,481 | 365,456 | 258,316 | 58,168 | 0 | |
| 13 | | 2020 | 802,472 | 213,193 | 363,653 | 200,683 | 24,943 | - | |
| 14 | | 2021 | 811,098 | 216,226 | 363,699 | 218,819 | 12,354 | 0 | |
| 15 | | 2022 | 821,055 | 218,521 | 361,930 | 226,019 | 14,585 | - | |
| 16 | | 2023 | 829,697 | 221,944 | 359,908 | 234,594 | 13,252 | 0 | |
| 17 | | 2024 | 837,642 | 264,533 | 358,546 | 199,149 | 15,414 | - | |
| 18 | | 2025 | 846,703 | 373,987 | 362,799 | 96,017 | 13,900 | 0 | |
| 19 | | 2026 | 857,071 | 373,775 | 371,801 | 90,341 | 21,154 | 0 | |
| 20 | | 2027 | 864,777 | 373,935 | 380,770 | 103,897 | 6,175 | 0 | |
| 21 | | 2028 | 883,433 | 374,088 | 388,802 | 109,139 | 11,404 | - | |
| 22 | | **Total** | **19,217,320** | **9,020,739** | **6,697,479** | **2,990,403** | **508,697** | **1** | |
| 23 | | | | | | | | | |

**Table 11F: Projected Federal Investments in Debt Optimization**
**($000s)**

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Project | Original Principal | Current Principal | Interest Rate | Due Date | Replacement? | In Service Date | Month | Rollover Date | Rollover Rate |
| 2 | COLUMBIA RIVER FISH MITIGATION | 110,000 | 110,000 | 4.380% | 2060 | No | 2009 | - | - | - |
| 3 | COLUMBIA RIVER FISH MITIGATION | 88,000 | 88,000 | 5.290% | 2060 | No | 2010 | - | - | - |
| 4 | COLUMBIA RIVER FISH MITIGATION | 96,000 | 96,000 | 5.730% | 2061 | No | 2011 | - | - | - |
| 5 | COLUMBIA RIVER FISH MITIGATION | 50,000 | 50,000 | 5.790% | 2062 | No | 2012 | - | - | - |
| 6 | COLUMBIA RIVER FISH MITIGATION | 124,288 | 124,288 | 5.790% | 2063 | No | 2013 | - | - | - |
| 7 | COLUMBIA RIVER FISH MITIGATION | 59,608 | 59,608 | 5.790% | 2064 | No | 2014 | - | - | - |
| 8 | COLUMBIA RIVER FISH MITIGATION | 9,345 | 9,345 | 5.790% | 2065 | No | 2015 | - | - | - |
| 9 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.000% | 2066 | No | 2016 | - | - | - |
| 10 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.760% | 2067 | No | 2017 | - | - | - |
| 11 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.810% | 2068 | No | 2018 | - | - | - |
| 12 | COLUMBIA RIVER FISH MITIGATION | - | - | 6.920% | 2069 | No | 2019 | - | - | - |
| 13 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.010% | 2070 | No | 2020 | - | - | - |
| 14 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.140% | 2071 | No | 2021 | - | - | - |
| 15 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.180% | 2072 | No | 2022 | - | - | - |
| 16 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.260% | 2073 | No | 2023 | - | - | - |
| 17 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.330% | 2074 | No | 2024 | - | - | - |
| 18 | COLUMBIA RIVER FISH MITIGATION | - | - | 7.330% | 2075 | No | 2025 | - | - | - |
| 19 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2076 | No | 2026 | - | - | - |
| 20 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2077 | No | 2027 | - | - | - |
| 21 | COLUMBIA RIVER FISH MITIGATION | - | - | 5.560% | 2078 | No | 2028 | - | - | - |
| 22 | BPA PROGRAM | 16,500 | 12,714 | 5.350% | 2044 | No | 2009 | 3 | - | - |
| 23 | BPA PROGRAM | 13,871 | 13,871 | 6.790% | 2045 | No | 2010 | 3 | - | - |
| 24 | BPA PROGRAM | 14,950 | 14,950 | 6.930% | 2046 | No | 2011 | 3 | - | - |
| 25 | BPA PROGRAM | 15,041 | 15,041 | 6.690% | 2047 | No | 2012 | 3 | - | - |
| 26 | BPA PROGRAM | 15,099 | 15,099 | 6.690% | 2048 | No | 2013 | 3 | - | - |
| 27 | BPA PROGRAM | 15,176 | 15,176 | 6.690% | 2049 | No | 2014 | 3 | - | - |
| 28 | BPA PROGRAM | 15,935 | 15,935 | 6.690% | 2050 | No | 2015 | 3 | - | - |
| 29 | BPA PROGRAM | 12,357 | 12,357 | 6.690% | 2051 | No | 2016 | 3 | - | - |
| 30 | BPA PROGRAM | 12,384 | 12,384 | 6.690% | 2052 | No | 2017 | 3 | - | - |
| 31 | BPA PROGRAM | 12,410 | 12,410 | 6.690% | 2053 | No | 2018 | 3 | - | - |
| 32 | BPA PROGRAM | 12,437 | 12,437 | 6.690% | 2054 | No | 2019 | 3 | - | - |
| 33 | BPA PROGRAM | 12,462 | 12,462 | 6.690% | 2055 | No | 2020 | 3 | - | - |
| 34 | BPA PROGRAM | 12,487 | 12,487 | 6.690% | 2056 | No | 2021 | 3 | - | - |
| 35 | BPA PROGRAM | 12,512 | 12,512 | 6.690% | 2057 | No | 2022 | 3 | - | - |
| 36 | BPA PROGRAM | 12,537 | 12,537 | 6.690% | 2058 | No | 2023 | 3 | - | - |
| 37 | BPA PROGRAM | 12,562 | 12,562 | 6.690% | 2059 | No | 2024 | 3 | - | - |
| 38 | BPA PROGRAM | 12,587 | 12,587 | 6.690% | 2060 | No | 2025 | 3 | - | - |
| 39 | BPA PROGRAM | 12,612 | 12,612 | 6.690% | 2061 | No | 2026 | 3 | - | - |
| 40 | BPA PROGRAM | 12,637 | 12,637 | 6.690% | 2062 | No | 2027 | 3 | - | - |
| 41 | BPA PROGRAM | 13,016 | 13,016 | 6.690% | 2063 | No | 2028 | 3 | - | - |
| 42 | BUREAU DIRECT FUND | 133,238 | 133,238 | 5.350% | 2054 | No | 2009 | 3 | - | - |
| 43 | BUREAU DIRECT FUND | 157,850 | 157,850 | 6.790% | 2055 | No | 2010 | 3 | - | - |
| 44 | BUREAU DIRECT FUND | 170,850 | 170,850 | 6.930% | 2056 | No | 2011 | 3 | - | - |
| 45 | BUREAU DIRECT FUND | 178,500 | 178,500 | 6.690% | 2057 | No | 2012 | 3 | - | - |
| 46 | BUREAU DIRECT FUND | 188,700 | 188,700 | 6.690% | 2058 | No | 2013 | 3 | - | - |
| 47 | BUREAU DIRECT FUND | 190,400 | 190,400 | 6.690% | 2059 | No | 2014 | 3 | - | - |
| 48 | BUREAU DIRECT FUND | 192,100 | 192,100 | 6.690% | 2060 | No | 2015 | 3 | - | - |
| 49 | BUREAU DIRECT FUND | 105,000 | 105,000 | 6.690% | 2061 | No | 2016 | 3 | - | - |
| 50 | BUREAU DIRECT FUND | 110,000 | 110,000 | 6.690% | 2062 | No | 2017 | 3 | - | - |
| 51 | BUREAU DIRECT FUND | 110,000 | 110,000 | 6.690% | 2063 | No | 2018 | 3 | - | - |
| 52 | BUREAU DIRECT FUND | 113,000 | 113,000 | 6.690% | 2064 | No | 2019 | 3 | - | - |
| 53 | BUREAU DIRECT FUND | 115,000 | 115,000 | 6.690% | 2065 | No | 2020 | 3 | - | - |
| 54 | BUREAU DIRECT FUND | 118,000 | 118,000 | 6.690% | 2066 | No | 2021 | 3 | - | - |
| 55 | BUREAU DIRECT FUND | 121,000 | 121,000 | 6.690% | 2067 | No | 2022 | 3 | - | - |
| 56 | BUREAU DIRECT FUND | 124,000 | 124,000 | 6.690% | 2068 | No | 2023 | 3 | - | - |
| 57 | BUREAU DIRECT FUND | 127,000 | 127,000 | 6.690% | 2069 | No | 2024 | 3 | - | - |
| 58 | BUREAU DIRECT FUND | 130,000 | 130,000 | 6.690% | 2070 | No | 2025 | 3 | - | - |
| 59 | BUREAU DIRECT FUND | 133,900 | 133,900 | 6.690% | 2071 | No | 2026 | 3 | - | - |
| 60 | BUREAU DIRECT FUND | 137,917 | 137,917 | 6.690% | 2072 | No | 2027 | 3 | - | - |
| 61 | BUREAU DIRECT FUND | 142,055 | 142,055 | 6.690% | 2073 | No | 2028 | 3 | - | - |
| 62 | CONSERVATION | 27,200 | 27,200 | 3.660% | 2014 | No | 2009 | 3 | - | - |
| 63 | CONSERVATION | 32,300 | 32,300 | 4.930% | 2015 | No | 2010 | 3 | - | - |
| 64 | CONSERVATION | 39,100 | 39,100 | 5.560% | 2016 | No | 2011 | 3 | - | - |
| 65 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2017 | No | 2012 | 3 | - | - |
| 66 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2018 | No | 2013 | 3 | - | - |
| 67 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2019 | No | 2014 | 3 | - | - |
| 68 | CONSERVATION | 47,600 | 47,600 | 5.620% | 2020 | No | 2015 | 3 | - | - |

**Table 11F: Projected Federal Investments in Debt Optimization**
**($000s)**

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Project | Original Principal | Current Principal | Interest Rate | Due Date | Replacement? | In Service Date | Month | Rollover Date | Rollover Rate |
| 69 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2021 | No | 2016 | 3 | - | - |
| 70 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2022 | No | 2017 | 3 | - | - |
| 71 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2023 | No | 2018 | 3 | - | - |
| 72 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2024 | No | 2019 | 3 | - | - |
| 73 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2025 | No | 2020 | 3 | - | - |
| 74 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2026 | No | 2021 | 3 | - | - |
| 75 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2027 | No | 2022 | 3 | - | - |
| 76 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2028 | No | 2023 | 3 | - | - |
| 77 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2029 | No | 2024 | 3 | - | - |
| 78 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2030 | No | 2025 | 3 | - | - |
| 79 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2031 | No | 2026 | 3 | - | - |
| 80 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2032 | No | 2027 | 3 | - | - |
| 81 | CONSERVATION | 40,000 | 40,000 | 5.620% | 2033 | No | 2028 | 3 | - | - |
| 82 | FISH, WILDLIFE | 50,000 | 50,000 | 4.720% | 2024 | No | 2009 | 3 | - | - |
| 83 | FISH, WILDLIFE | 70,000 | 70,000 | 4.930% | 2025 | No | 2010 | 3 | - | - |
| 84 | FISH, WILDLIFE | 60,000 | 60,000 | 6.220% | 2026 | No | 2011 | 3 | - | - |
| 85 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2027 | No | 2012 | 3 | - | - |
| 86 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2028 | No | 2013 | 3 | - | - |
| 87 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2029 | No | 2014 | 3 | - | - |
| 88 | FISH, WILDLIFE | 50,000 | 50,000 | 6.210% | 2030 | No | 2015 | 3 | - | - |
| 89 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2031 | No | 2016 | 3 | - | - |
| 90 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2032 | No | 2017 | 3 | - | - |
| 91 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2033 | No | 2018 | 3 | - | - |
| 92 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2034 | No | 2019 | 3 | - | - |
| 93 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2035 | No | 2020 | 3 | - | - |
| 94 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2036 | No | 2021 | 3 | - | - |
| 95 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2037 | No | 2022 | 3 | - | - |
| 96 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2038 | No | 2023 | 3 | - | - |
| 97 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2039 | No | 2024 | 3 | - | - |
| 98 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2040 | No | 2025 | 3 | - | - |
| 99 | FISH, WILDLIFE | 36,000 | 36,000 | 6.213% | 2041 | No | 2026 | 3 | - | - |
| 100 | FISH, WILDLIFE | 36,000 | 36,000 | 6.21% | 2042 | No | 2027 | 3 | - | - |
| 101 | FISH, WILDLIFE | 36,000 | 36,000 | 6.21% | 2043 | No | 2028 | 3 | - | - |

## Table 11G: Projected Energy Northwest Debt Service with Debt Optimization ($000s)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Fiscal Year** | **Principal** | **Interest** | **DO/DSR** | **Net New D/S** |
| 2 | 2009 | - | 2,613 | (116,295) | (113,682) |
| 3 | 2010 | - | 11,707 | - | 11,707 |
| 4 | 2011 | - | 16,214 | - | 16,214 |
| 5 | 2012 | 300 | 19,146 | - | 19,446 |
| 6 | 2013 | 10,595 | 21,634 | - | 32,229 |
| 7 | 2014 | 49,910 | 23,046 | - | 72,956 |
| 8 | 2015 | 63,733 | 22,938 | - | 86,671 |
| 9 | 2016 | 5,474 | 21,789 | - | 27,263 |
| 10 | 2017 | 7,129 | 23,837 | - | 30,965 |
| 11 | 2018 | 8,648 | 25,478 | - | 34,125 |
| 12 | 2019 | 21,761 | 27,602 | - | 49,363 |
| 13 | 2020 | 57,223 | 27,944 | - | 85,167 |
| 14 | 2021 | 61,338 | 26,853 | - | 88,191 |
| 15 | 2022 | 65,415 | 25,075 | - | 90,490 |
| 16 | 2023 | 69,991 | 23,512 | - | 93,504 |
| 17 | 2024 | 59,733 | 20,711 | - | 80,444 |
| 18 | 2025 | 19,330 | 17,554 | - | 36,884 |
| 19 | 2026 | 20,305 | 16,590 | - | 36,895 |
| 20 | 2027 | 21,334 | 15,563 | - | 36,897 |
| 21 | 2028 | 22,411 | 14,471 | - | 36,882 |
| 22 | 2029 | 23,574 | 13,311 | - | 36,885 |
| 23 | 2030 | 24,806 | 12,080 | - | 36,887 |
| 24 | 2031 | 26,113 | 10,774 | - | 36,886 |
| 25 | 2032 | 26,730 | 9,386 | - | 36,116 |
| 26 | 2033 | 25,356 | 7,956 | - | 33,312 |
| 27 | 2034 | 23,850 | 6,596 | - | 30,446 |
| 28 | 2035 | 20,345 | 5,332 | - | 25,677 |
| 29 | 2036 | 18,754 | 4,252 | - | 23,005 |
| 30 | 2037 | 16,060 | 3,252 | - | 19,312 |
| 31 | 2038 | 13,745 | 2,394 | - | 16,139 |
| 32 | 2039 | 10,420 | 1,658 | - | 12,078 |
| 33 | 2040 | 8,680 | 1,098 | - | 9,778 |
| 34 | 2041 | 6,126 | 631 | - | 6,757 |
| 35 | 2042 | 4,166 | 300 | - | 4,467 |
| 36 | 2043 | 1,373 | 75 | - | 1,447 |
| 37 | **Total** | **814,725** | **483,375** | **(116,295)** | **1,181,805** |
| 38 | | | | | |

## Table 11G: Projected Energy Northwest Debt Service with Debt Optimization ($000s)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 39 | | | | | |
| 40 | **Par Amounts Of Selected Issues** | | | | |
| 41 | NEG2009AW2 | | | | 76,385 |
| 42 | NEG2009BW2 | | | | 25,465 |
| 43 | NEG2010AW2 | | | | 69,040 |
| 44 | NEG2010BW2 | | | | 23,015 |
| 45 | NEG2011AW2 | | | | 41,020 |
| 46 | NEG2011BW2 | | | | 13,675 |
| 47 | NEG2012AW2 | | | | 38,215 |
| 48 | NEG2012BW2 | | | | 12,740 |
| 49 | NEG2013AW2 | | | | 24,355 |
| 50 | NEG2013BW2 | | | | 8,120 |
| 51 | NEG2014AW2 | | | | 33,540 |
| 52 | NEG2014BW2 | | | | 11,180 |
| 53 | NEG2015AW2 | | | | 20,320 |
| 54 | NEG2015BW2 | | | | 6,775 |
| 55 | NEG2016AW2 | | | | 37,300 |
| 56 | NEG2016BW2 | | | | 12,435 |
| 57 | NEG2017AW2 | | | | 24,190 |
| 58 | NEG2017BW2 | | | | 8,065 |
| 59 | NEG2018AW2 | | | | 43,915 |
| 60 | NEG2018BW2 | | | | 14,640 |
| 61 | NEG2019AW2 | | | | 17,750 |
| 62 | NEG2019BW2 | | | | 5,920 |
| 63 | NEG2020AW2 | | | | 31,135 |
| 64 | NEG2020BW2 | | | | 10,380 |
| 65 | NEG2021AW2 | | | | 17,750 |
| 66 | NEG2021BW2 | | | | 5,920 |
| 67 | NEG2022AW2 | | | | 31,135 |
| 68 | NEG2022BW2 | | | | 10,380 |
| 69 | NEG2023AW2 | | | | 17,750 |
| 70 | NEG2023BW2 | | | | 5,920 |
| 71 | NEG2009 (DO) DUE 13-15 | | | | 116,295 |
| 72 | **TOTAL** | | | | **814,725** |

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 refinancings under DOP. While these preliminary estimates will be provided by BPA to customers and constituents even if

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