DRAFT

BPA's FINANCIAL PLAN

DRAFT FOR PUBLIC REVIEW & COMMENT

June 2008

(This page intentionally left blank.)

DRAFT

Table of Contents

Executive Summary

This Financial Plan is intended to provide a foundation for the development of new or revised financial policies and practices, as they are needed. It is intended to generate, document, and evaluate issues and possible actions surrounding four key financial areas: the use of Financial Risk Metrics, Access to Capital, Good Year/Bad Year Financial Planning, and Cost Recovery. BPA expects that the breadth and depth of issues and actions considered in this Financial Plan will continue to evolve as conditions change and new ideas are developed and that the ideas described in this document will guide the implementation of specific, actionable proposals for implementing the financial policy in future rate cases. Descriptions of current policy and BPA's expectations about continued research and analysis are summarized below.

Financial Risk Metrics. BPA will establish rates for Power and Transmission services such that each business unit demonstrates a 95 percent probability of meeting its obligations to the U.S. Treasury at the end of each two-year rate period or the equivalent probability for different length rate periods as incorporated into this Plan. The Financial Plan provides guidelines for BPA as it studies and develops analytical tools and metrics for within-year liquidity needs. BPA proposes to apply any new standard for ratemaking, such as a Vendor Payment Probability, in a formal rate proceeding.

Access to Capital. The magnitude of the Access to Capital problem after FY 2017 is a significant concern and deserves further attention. Unless new sources of capital are developed, BPA is likely to run out of its limited Treasury Borrowing Authority in FY 2017. As BPA continues to analyze this problem, it will focus on ensuring continued access to Treasury Borrowing Authority on a rolling, 10-year basis, using an appropriate mix of Federal and non-Federal sources of capital for future investments. The Financial Plan establishes parameters for BPA as it continues to explore options identified in the Access to Capital section of the document, along with additional new alternatives that might be developed, with the ultimate goal of ensuring access to Treasury Borrowing Authority on a rolling 20-year basis. As BPA continues to develop a capital funding plan to sufficiently meet capital requirements over the next 20 years, it will consult with interested stakeholders through public workshops and/or other forums.

Good Year/Bad Year Financial Planning. BPA will explore appropriate ways to use the results of years of good financial performance to improve, or at least not impair, BPA's ability to cope with years of poor financial performance. The conceptual framework described in this document identifies a number of tools that could be used in various circumstances to improve BPA's financial health. These, and additional new tools, will be developed in future rate cases to address the various dimensions of financial risk that BPA must deal with in order to make its Treasury payments.

Cost Recovery. Consistent with existing practice, BPA will continue establishing rates for Power and Transmission services such that the forecast of total accrued revenues is at least equal to the forecast of total accrued expenses and cash flow is at least neutral. BPA will continue to explore options, including modifying this policy, for addressing periods when cash inflow exceeds annual repayment needs on a planning basis through application of this policy,

1 Introduction

BPA's Financial Plan reflects current policies and anticipates those for the future. BPA's first financial plan, the 10-Year Financial Plan, was published in 1993 after extensive analysis and discussion with the agency's stakeholders.[1] Its purpose was "to design financial policies that will ensure BPA's ability to make its annual U.S. Treasury payments in full and on time, while also providing increased rate predictability."[2] The 10-Year Financial Plan focused on two significant subject areas, Access to Capital and Financial Risk, and established the basis for a Treasury Payment Probability (TPP) standard that BPA has used in all subsequent rate cases. Additionally, the 10-Year Financial Plan laid the groundwork for the Cost Recovery Adjustment Clauses (CRAC) and the Dividend Distribution Clause (DDC), the rate adjustment and rebate mechanisms used since the 2002 Power Rate Case.

Conditions that affect BPA's financial position have changed since the 10-Year Financial Plan was published, as have a number of the policies that guide BPA in establishing its revenue requirement and setting rates. Recognizing that these changes have long-term financial implications, BPA committed to developing and updating its Financial Plan in the Long-Term Regional Dialogue Final Policy. The Policy states that:

> . . . it would be preferable to look broadly at long-term financial policy issues in [BPA's] financial plan update, including the need for and sources of capital, BPA's overall debt structure, the appropriate Treasury Payment Probability standard for ratesetting, and the best uses of high net secondary revenues when they occur. BPA intends to complete this financial plan update before the end of FY 2008. [3]

This document fulfills that commitment; thus, this Financial Plan can be seen as a companion to the Regional Dialogue and its attendant processes (Tiered Rate Methodology and contracts).

This Financial Plan identifies long-term financial issues and provides strategies or suggests alternatives to address them. The purpose of this effort is not to produce detailed courses of action. Instead its purpose is to generate, document, and evaluate selected issues within a financial framework that will help guide BPA's financial direction. Many of the concepts described in this long-term plan may be elaborated on and implemented in specific rate cases, where BPA will be able to focus more narrowly upon specific sets of actions or measures under the conditions then prevailing.

[1] Bonneville Power Administration, 10-Year Financial Plan, January 1993
[2] Bonneville Power Administration, 10-Year Financial Plan, January 1993, pg. 2
[3] Bonneville Power Administration, Long-term Regional Dialogue Final Policy, July 2007, pg. 7.

The Financial Plan addresses four major subject areas:

- Financial Risk Metrics – Update of the 10-Year Financial Plan
- Access to Capital – Update of the 10-Year Financial Plan
- Good Year/Bad Year Financial Planning – New
- Cost Recovery Policy – New

The remainder of this document is organized into six sections, four of which specifically address each of the major subject areas described above.

Section 2 provides background information, including strategic context and discussion of relevant processes for developing BPA's rates and financial plans.

Section 3 discusses Financial Risk Metrics. It provides a background on the development and application of the TPP standard, looks at BPA's within-year liquidity requirements, and describes how a Vendor Payment Probability standard might function.

Section 4 discusses BPA's Access to Capital. It provides historical context, defines the objectives of BPA's current efforts in this area, analyzes BPA's capital needs, and suggests possible additional tools.

Section 5 explores Good Year/Bad Year Financial Planning; i.e., how to best take advantage of the unique opportunities that occur in good years. It looks at possible metrics for evaluating BPA's overall financial health and provides a conceptual framework for describing, comparing, and potentially evaluating actions BPA might take in good and bad years.

Section 6 discusses BPA's Cost Recovery Policy. It identifies statutory obligations and applicable costs, describes current revenue requirement policy, and considers the implications of third-party debt service and debt optimization.

Finally, section 7 summarizes BPA's current policy and discusses the direction BPA intends to pursue in dealing with the key issues identified in the Financial Plan.

2 Background

The four major inter-related subject areas listed above generally capture the statutory and business objectives the agency seeks to achieve on an ongoing basis: a reliable power and transmission system, cost recovery, including timely repayment of the Federal investment, and the lowest possible rates, consistent with sound business principles. Self-financing status, achieved in 1974, provided the agency with the authority to issue bonds to the Treasury, within borrowing authority limitations, to finance capital programs outside of the appropriations process. It also created the Bonneville Fund and gave BPA the ability to manage cash for ongoing operations. The statutory cost recovery requirements that are the basis for Federal Energy Regulatory Commission's (FERC) review and approval of BPA's rate proposals include defining costs according to sound business principles and recovering the costs of ongoing operations, particularly the repayment of the Federal investments in the power and transmission systems.

Financial Risk Metrics allow the quantification of the risks that affect BPA's ability to recover its costs in relation to available tools for mitigating that risk, including financial reserves, rate adjustment clauses, and planned net revenues for risk. Access to Capital represents BPA's most cost-effective funding of agency capital programs. Uses of cash and issuances of debt are balanced and repayment plans are optimized to achieve the lowest overall debt service cost. Good Year/Bad Year Financial Planning addresses cash and debt management actions that have the potential to enhance risk mitigation and access to capital, as well as the potential for offsets against revenue requirements. Cost Recovery Policy provides the rate setting framework for assessing cash requirements in light of the need to ensure timely repayment of the Federal investment.

2.1 Strategic Context

BPA's strategic objectives are described in its November 2007 publication "BPA's Strategic Direction with Key Agency Targets for Fiscal Year 2008." The Financial Perspective of the strategy map contains three objectives focusing on capital access, cost recovery, and cash flow.[4]

Finance Objective 1 *Capital Access*
BPA has sustainable capital access.

BPA will develop a capital investment and funding program that will ensure sustained access to adequate capital to accomplish our mission without relying on additional borrowing authority from the U.S. Treasury. This program will include an increasing use of third-party financing options, such as capital leases.

[4] "BPA's Strategic Direction with Key Agency Targets for Fiscal Year 2008," November 2007, pg. 16.

Finance Objective 2 *Cost Recovery*
BPA consistently recovers its costs over time.

BPA sells cost-based wholesale power and transmission services at rates consistent with sound business principles that are designed to fully recover the taxpayers' investment in the FCRPS. We remain committed to meeting all of our financial obligations in full and on time. BPA will measure its progress in recovering its costs by managing to sustain positive Net Revenues over time and will maintain its Accumulated Modified Net Revenue at targeted levels.

Finance Objective 3 *Cash flow*
BPA maintains adequate cash flow for liquidity.

BPA will continue to apply the financial standard it adopted in 1993. That means it will plan to achieve and maintain a Treasury payment probability (TPP) target that is the equivalent of a 95 percent probability of making our annual Treasury payments – in full and on time – for a two-year period. This helps retain our high credit quality and access to cost-effective capital, which in turn lowers costs for ratepayers in the long term.

These strategic objectives touch on all four of the major issues addressed in this document. While some associations are obvious (the Access to Capital issue is tied to the Access to Capital objective), there is substantial overlap between all four of the subject areas and the three financial objectives stated above. The Capital Access objective is affected by both Cost Recovery Policy and Good Year/Bad Year Financial Planning, because both can provide a source of funds for capital investment and a process for deciding how to best use the proceeds of a good financial year. The Cost Recovery objective is affected by Financial Risk Metrics, which provide tools and their calibration for ensuring rates are able to meet all of BPA's financial obligations. While the Cash Flow objective is based on the Treasury Payment Probability standard, it is also affected by the Cost Recovery, Financial Risk Metrics, and Good Year/Bad Year Financial Planning issues.

2.2 Relationship to Ratemaking

It is BPA's intent that this Financial Plan will provide a consistent set of policies that will guide BPA's financial decisions over successive rate periods. BPA's enabling statutes state that the cost basis of power and transmission rates must be "consistent with sound business principles" so that the timely repayment of the Federal investment is ensured.[5] The subject areas discussed in this document address both of these standards. All of the subject areas touch on the repayment of Federal investments. It is embedded in Cost Recovery Policy and Access to Capital. The ability to repay the Federal investment is a fundamental metric against which rates are judged using the TPP standard. The ability to

[5] Federal Columbia River Transmission System Act of 1974, 16 USC §838(g) and Pacific Northwest Electric Power Planning and Conservation Act, 16 USC §839(e)

repay the Federal investment is a something to be preserved or even accelerated in Good Year/Bad Year Financial Planning. In addition, by supporting the central financial objectives of BPA, these subject areas manifest the business principles inherent in the financial structure upon which rates are built.

2.3 Public Process for Updating the Financial Plan

BPA held a series of public workshops to address the major subject areas included in the Financial Plan. This process started with an introductory workshop in November 2007 to discuss the project and its proposed scope. BPA staff described the breadth of the project and the subject areas expected to be covered in technical workshops. Participants did not suggest that additional issues be included.

BPA held two technical workshops in March 2008 to address Access to Capital, Financial Risk Metrics, and Cost Recovery Policy. The last workshop, on Good Year/Bad Year Financial Planning was held in April 2008.

3 Financial Risk Metrics

Financial risk mitigation addresses the uncertainties of BPA's operating environment. The Financial Plan provides a framework of financial policies, particularly with regard to Financial Risk Metrics, to guide BPA's ratemaking to ensure BPA's ability to make its annual U.S. Treasury payments in full and on time, while also providing satisfactory rate predictability, and adequate cash flow for liquidity. This objective helps to ensure that all operating costs will be met, because payments to the Treasury are made only after all other BPA costs are paid. As a hydroelectric utility, BPA faces significant annual volatility in water flow that determines the amount of secondary energy that Bonneville can generate and sell. In addition, Bonneville faces considerable volatility in the prices for this secondary energy and other operating risks normal to all utilities. This can create cash flow volatility that can hinder BPA's ability to make its Treasury payments. This section discusses BPA's financial risk mitigation policies, in particular the TPP standard. It also discusses a new concept that BPA is considering, Vendor Payment Probability (VPP), which addresses Finance Objective 3 mentioned earlier.

3.1 Changes in BPA's Risk Profile

Because there have been dramatic changes in the region's power markets and in BPA's cash flow profile since the 10-Year Financial Plan was published, the magnitude and sources of certain risks BPA faces have changed. For example:

- Competitive and generally liquid markets for trading electrical energy have developed, which are quite volatile and which can force effective caps on BPA's power rates in light of its goal of having market competitive rates.
- BPA's sales to the aluminum smelters have decreased to the point that the aluminum prices, once a major source of revenue volatility for BPA, have no significant effect on BPA's sales revenues.
- The timing of BPA's net cash flow has changed due to:
    - BPA changing its product offerings, e.g., adding the Slice product
    - BPA directly funding Corps of Engineers (the Corps), Bureau of Reclamation (Bureau) and US Fish & Wildlife Service (Fish & Wildlife) operation and maintenance expenses, whereas before, these agencies received their funding through Congressional Appropriations which BPA repaid at year-end
    - BPA now directly paying Energy Northwest's (EN's) operating and debt service costs rather than net billing EN's participating customers

3.2 The Origin of the TPP Standard and Metric

The Financial Risk Metrics portion of the 10-Year Financial Plan was developed in response to perceived threats regarding BPA's access to capital and Treasury repayment methodology. BPA noted in a letter to the region in 1990 that:

> In the next several years, in the presence of continuing Federal budget constraints, BPA believes it will be judged by stricter standards. BPA believes that the perceptions of Congress and the Executive Branch regarding BPA's financial practices and the volatile nature of the Federal fiscal situation are likely to constrain future access to 100 percent Federal debt financing.[6]

During this time BPA faced proposed changes to the repayment methodology from the Executive Branch that would have imposed higher annual payments. BPA decided it had to significantly increase its ability to pay the Treasury in full and on time each year. To do this, BPA developed the TPP standard which measures the likelihood that BPA would be able to make all of its Treasury Payments in full and on time during a rate period. BPA committed to implementing that metric in its ratemaking process.

BPA sought to balance the need for increased security of its Treasury payments against the need to preserve affordable rates for the benefit of the region. Achieving a 100 percent certainty would generally require very high rates. The 10-Year Financial Plan proposed that:

> BPA shall establish rates to maintain a level of financial reserves sufficient to achieve a 95 percent probability of making its U.S. Treasury payments in full and on time for each 2-year rate period.[7]

This proposal was subject to much discussion during the 1992 Programs in Perspective process and the1993 rate case. In response to comments received, BPA decided in the 1993 final rate proposal to adopt the 95 percent TPP standard, implemented using a one-time phase-in.[8]

3.3 Application of the TPP Standard

The 10-Year Financial Plan set a long-term policy goal of setting rates in each rate period, assumed to be two years long, to achieve a 95 percent probability of making all Treasury payments in full. In the past, the Administrator has opted to use a lower standard if adherence to the 95 percent standard would have resulted in significant rate

---

[6] Bonneville Power Administration, "Evaluation of Financial Policy Issues, The Challenges for the 1990's – Staying Fit for the Long Run" November 27, 1990 as reprinted in the 1991 Final Revenue Requirement Study, WP-91-FS-BPA-01, pg. 113

[7] Bonneville Power Administration, 10-year Financial Plan, pg. 2.

[8] 1993 Wholesale Power Rate Case Final Proposal, Revenue Requirement Study, WP-93-FS-BPA-02, pg. C19-20. However, regional respondents were also concerned "about the level of reserves and the rate increase that could result from pursuing this [95 percent two-year] standard, given BPA's current financial circumstances and increased program requirement rate pressures."

increases. Nonetheless, the standard has always served to identify the level of financial risk BPA has considered acceptable, other things being equal.

Since 1995 BPA has had rate periods of different lengths and has translated the two-year TPP standard into equivalent standards for such rate periods:

- 88.0 percent for five-year rate periods
- 92.6 percent for three-year rate periods
- 97.5 percent for one-year rate periods

When BPA separated its commercial business into the Power Business Line and Transmission Business Line, it determined that the TPP standard should apply to each business line independently. This assumption has been the basis for ratemaking since FY 2000, when the 2002 Power and Transmission rates were developed and filed, and it ensures that Power and Transmission rates can be set independently, without cross-subsidization, while supporting the Agency TPP standard. BPA will continue to study the validity of this assumption; specifically, what the correlation of risks is between business units and whether that result could change the business unit standard while maintaining the agency standard. While the business units were on different rate periods, it was impossible to assess correlation. Now that rate periods will be synchronized, it will be possible to assess correlation. Mechanisms that could be relied upon to prevent cross-subsidies would need to be developed.

3.4 Has BPA Considered Raising or Lowering the Standard?

BPA has set rates that achieved different TPP levels, depending on the circumstances at the time, to relieve upward pressure on rates. For example, an 80 to 88 percent standard was used for the 2002 Power rate case when 88 percent was called for. The 2007 Power rate case was the first rate case in which rates were set to meet exactly this standard for the entire rate period.

In virtually every rate case since the 10-Year Financial Plan was adopted, BPA has been urged to either raise or lower the standard. However, BPA does not believe that increasing the standard is warranted, because BPA has been able to make the Treasury payment every year since adopting the TPP standard. Lowering the standard would generate significant concerns in other Executive Branch departments and Congress, where BPA's ability to meet its Federal obligations is an important issue, and it may also raise questions about BPA's ability to recover its costs.

BPA believes that the standard strikes the right balance between having low rates consistent with sound business principles and retaining the assurance that BPA will cover its costs as required by its enabling statutes.

3.5 Reserve Levels and TPP

While BPA cannot eliminate all financial risks it faces, it must find ways to adequately

mitigate these risks in its long-range financial planning. BPA's ability to mitigate its financial risks is a function of the nature and magnitude of those risks and of the risk mitigation tools BPA is able to bring to bear on those risks. The most important of BPA's risk mitigation tools has been the maintenance of adequate levels of financial reserves, which allows BPA to weather periods of adverse financial circumstances. Reserves are built up during periods of more fortuitous financial circumstances or through carefully crafted rate design which include rate adjustment mechanisms (CRACs and DDCs), or resetting rates for the next rate period, when Planned Net Revenues for Risk (PNRR) can be added to the revenue requirement in order to generate additional reserves.

While TPP focuses on having enough financial reserves at the end of each fiscal year to make the Treasury payment, it is also important for BPA to maintain sufficient reserves during the fiscal year to provide liquidity for normal day-to-day business needs because BPA's cash receipts throughout a month may not be perfectly matched with its need to use cash to meet its financial obligations. Other tools can also provide liquidity that can reduce the pressure on reserves.

In the 1993 rate case, BPA estimated that under adverse financial circumstances, $100 million in start-of-year financial reserves would be sufficient to meet BPA's need for liquidity. To meet this $100 million need, BPA relied on two sources of liquidity. The first was a note signed by both Treasury and the Administrator authorizing $250 million of short-term BPA borrowing. As the note was several years old, BPA did not believe it was prudent to rely on this note for more than $50 million of liquidity. The second source of liquidity is financial reserves. Therefore, BPA planned to hold $50 million of financial reserves at the end of each fiscal year. This $50 million in liquidity reserves would not be available for paying the Treasury. This criterion has been applied in each Power rate case through the 2002 rate case. For Transmission Services, the required level of liquidity reserves was established at $20 million. For the Agency as a whole, therefore, $70 million of financial reserves at the end of each fiscal year would be reserved for liquidity for the next year.

Instituting the Direct Payment program in June of 2006 significantly changed the shape of BPA's intra-year cash flow. In the Direct Payment program, BPA pays EN's operating and debt service costs directly, rather than net billing the owners of the EN projects WNP-1, Columbia Generating Station (CGS), and WNP-3. Large non-Federal debt service payments of EN bonds are made in November and May. This change in cash flow profile can be seen in Figure 3.1, which shows the monthly level of Power function reserves for 24 months under Direct Pay versus Net Billing for the EN budget cycle, which goes from June through May. Figure 3.1 shows that Direct Pay did not create additional cash flow for BPA; rather, that it changed the timing of when BPA receives its cash.

This change in cash flow timing was significant enough that BPA needed to reexamine its within-year liquidity needs. As a result, during the 2007 Power rate case, BPA performed analysis that showed that year-end Power function liquidity reserve levels should increase to $175 million. BPA and many of its power customers undertook to

find other sources of liquidity, since that change in the liquidity reserve level would require significantly higher rates. This effort led to the establishment of the Flexible PF Rate Program, which provides liquidity that is equivalent to about $125 million of financial reserves. This allowed the liquidity reserve level to remain at $50 million.[9]

3.6 Liquidity and Liquidity Tools

Maintaining adequate liquidity to handle day-to-day operating cash needs is standard practice in any business. There are no easy ways to determine how much cash that might be, however. Generally, for an investment grade credit rating, rating agencies require that a business retain enough cash or other sources of liquidity (such as overnight financial instruments and short-term lines of credit) to cover some number of days (generally between forty-five and sixty days) of cash operating expenses and debt service.

As mentioned above, BPA began reexamining its within-year liquidity needs when it changed the payment of EN project costs from net billing with EN participants to directly paying EN for those costs. Prior to this change, BPA's need for liquidity was based mainly on cash flow in the first few months of each fiscal year. This is because BPA's revenues at the beginning of each year were often constrained by net billing. As customers' net billing obligations were completed, generally within the first few months of EN's net billing cycle (or the last four months of BPA's fiscal year), they would begin remitting their bills to BPA instead of EN, and BPA's net cash flow would increase. Thus, the first few months of BPA's fiscal year typically comprised the period of greatest concern over cash adequacy. Under the Direct Payment program, sales receipts go directly into the BPA fund in all months, and BPA must consider its liquidity needs throughout the year. Figure 3.2 provides an illustration of EN intra-year debt service payments versus end-of-year Treasury payments for the years 2007 through 2024.

To reduce the demand on reserves as a source of liquidity, BPA has developed other liquidity tools:

- The Flexible PF Rate Program, which was created in the 2007 Power rate case. If BPA forecasts that it will be short of cash in any given month during the FY 2007-2009 rate period, this program allows BPA to increase the PF rates the program participants pay for one month. Three months later, BPA would reduce the program participants' rates for three months in order to hold these customers harmless in balance. The total amount of accelerated cash flow this program can create is $190 million, which BPA's analysis indicated was approximately equivalent to the

[9] This liquidity reserve level, formerly called working capital, is used in the ToolKit (and Transmission Risk Analysis Model (TRAM) for Transmission Services) to determine whether, in a given net revenue scenario, the year-ending reserve level would be sufficient to make the Treasury payment while leaving enough liquidity for the next year. If not, the model counts that game as a "miss" of the September Treasury payment, part or all of which is then deferred until later. The "successes" are then summed up. The number of successes divided by 3,000 gives the TPP for this run. If for the two-year rate period, the number of misses is greater than 150 (5 percent of 3,000 games), additional risk mitigation is needed, such as additional Planned Net Revenues for Risk (PNRR) or a stronger CRAC, is added until the number of misses is below 150 for the rate period.

liquidity provided by $125 million in incremental cash. During the FY 2010 Power rate case, BPA will consider whether or not to propose an extension of this program.

- A new short-term Treasury liquidity facility allows BPA to borrow up to $300 million on very short notice to cover certain operating expenses. BPA has not yet analyzed how to maximize the benefits of this new tool. It will help with BPA's liquidity needs and may provide additional support for TPP.

Existence of these tools will lessen the need for BPA to increase rates to cover its liquidity needs. BPA will continue to analyze its intra-year liquidity needs related to changes in its operating environment and to changes in the timing of its monthly cash flow.

3.7 Vendor Payment Probability: VPP Standard, VPP Metric, and VPP Modeling

As BPA continues to conduct analyses of its liquidity needs, a major thrust will be to look at the likelihood that it might have so little cash on hand sometime during a fiscal year it would miss a vendor payment. BPA has tentatively labeled this probability the Vendor Payment Probability (VPP). BPA will consider establishing a VPP Metric and a VPP Standard. A VPP Metric would measure the likelihood that BPA can meet all of its vendor (and Treasury) payments during a rate period. A VPP Standard would reflect BPA's tolerance for the risk of not making all its vendor payments. [10]

As a step to analyzing its intra-year liquidity needs, BPA has begun the process of modeling its monthly cashflows. The VPP methodology would be roughly comparable to TPP modeling, except that it would analyze monthly rather than annual periods. The probability of missing a vendor payment will be interpreted to mean the probability that month-end reserves balance would go below some predetermined level, e.g., $50 million.

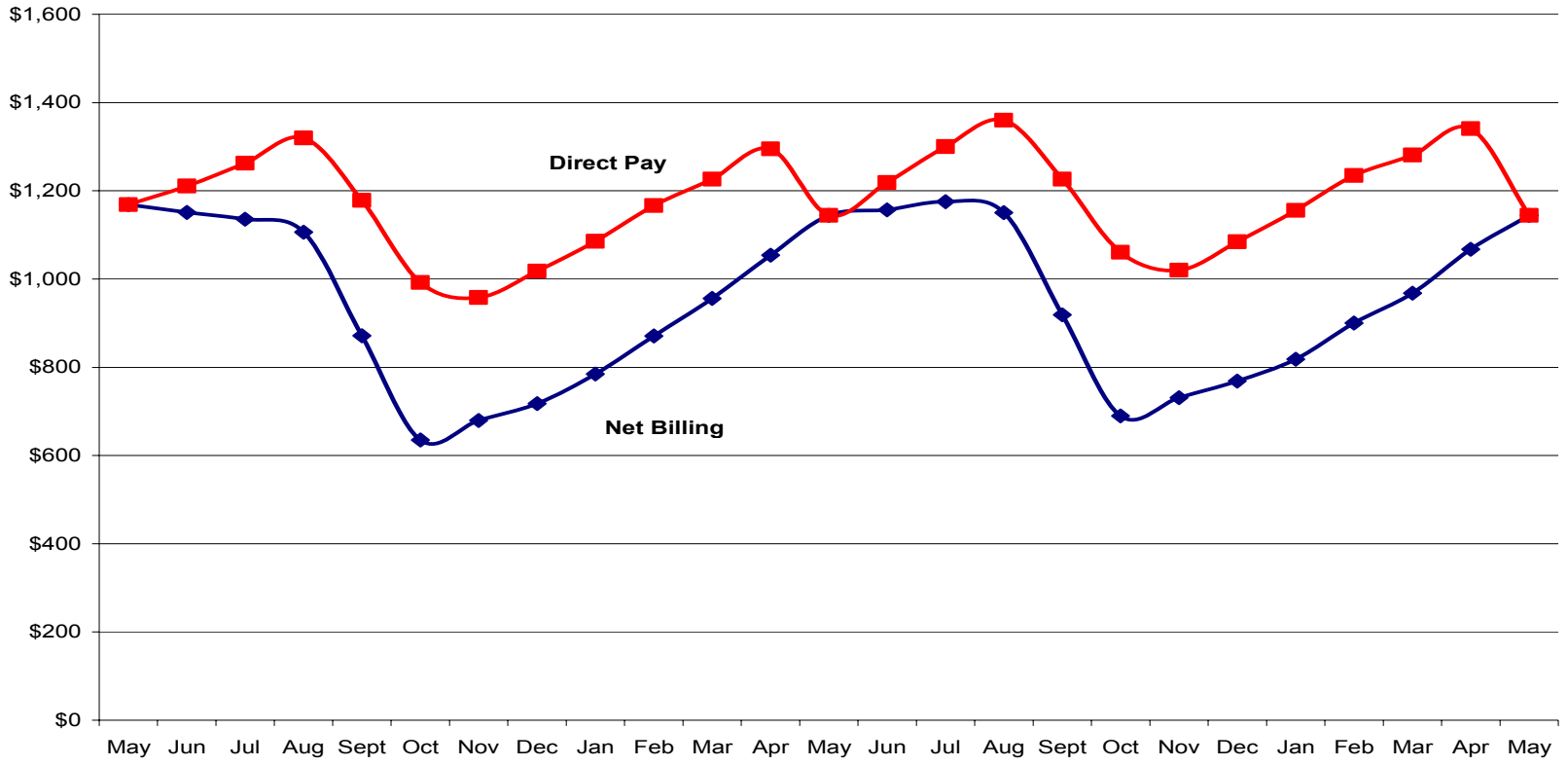
3.7 Summary

The objective of the Financial Risk Metrics section is to discuss BPA's tolerance for the risk of not making its scheduled Treasury payments, its current and contemplated tools for addressing this risk, and its plans for extending its analysis of payment certainty to within-year payments to both the Treasury and other creditors. BPA will continue to set rates to meet the 95 percent 2-year TPP standard or its equivalent for different length rate periods as incorporated in this Plan. BPA will continue to analyze intra-year liquidity and determine whether to develop and implement a VPP standard and metric.

As BPA continues its work on determining its liquidity needs and associated metrics and standards (including the VPP Standard), it will consult with interested stakeholders. Should BPA decide to propose to include new standards and tools in ratemaking, it will do so in a 7(i) process.

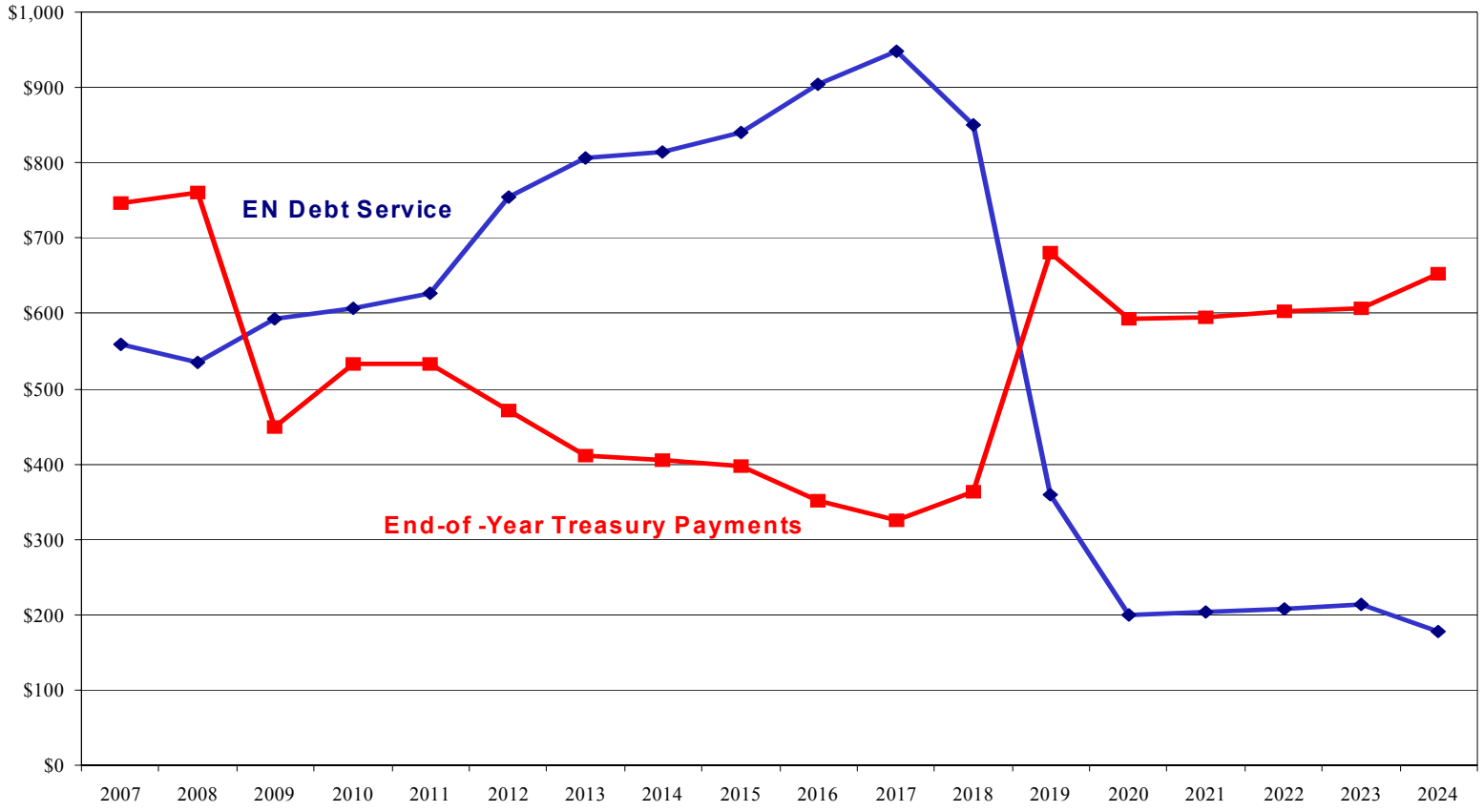
[10] The term "vendor payment" as used here applies to any payment obligation BPA has to non-Federal parties and to the Corps, Bureau, and Fish & Wildlife.

Figure 3.1: Monthly Reserve Balances for Direct Pay versus Net Billing ($ Millions)[11]



[11] This information is provided for illustrative purposes only. It does not contain BPA approved financial information , nor do these data necessarily correspond to other publicly released financial data

Figure 3.2: EN Debt Service vs. End-of-Year Treasury Payments ($ Millions)[12]



[12] This information is provided for illustrative purposes only. It does not contain BPA approved financial information, nor do these data necessarily correspond to other publicly released financial data.

4 Access to Capital

Over the next decade, BPA expects to make significant capital investments in the FCRPS for transmission construction and replacements, replacements and upgrades of the hydroelectric facilities at the dams, fish and wildlife and conservation projects, and internal BPA infrastructure. These capital investments will enable BPA to meet several strategic objectives important to the region: meet the increasing demand for power, provide reliable and responsive transmission services, and help restore and enhance fish runs and wildlife habitat.

4.1 Background

For years BPA has known that its capital funding requirements far exceed the amount of Treasury Borrowing Authority available. As far back as the early 1990s BPA began addressing this "access to capital" challenge. In the development of financial goals in 1991 and the 10-Year Financial Plan in 1993, BPA adopted strategies and goals for coping with growing capital funding requirements. The 10-Year Financial Plan called for BPA to seek an increase in its Treasury Borrowing Authority cap. BPA pursued this option and in 2003 received a $700 million increase to the cap, taking the Treasury borrowing cap from $3.75 billion to $4.45 billion.

The 10-Year Financial Plan also called for increased use of non-Federal financing of capital assets. BPA pursued this challenge from several angles. First, BPA developed the Debt Optimization (DO) Program, which was designed to help restore availability of Treasury Borrowing Authority by taking advantage of BPA's existing low cost tax-exempt debt through EN. The program frees up availability of Treasury Borrowing Authority by extending maturing EN tax-exempt debt and instead paying off the same amount of Federal debt. The result is the same amount of debt outstanding, but a different mix (more non-Federal, less Federal) and restored Treasury Borrowing Authority availability. Through FY 2007, the DO Program has restored $1.48 billion of Treasury Borrowing Authority availability. BPA chooses to limit this program to a level that will not raise rates above what they otherwise would be without the program. Currently BPA projects that the final DO-associated Treasury payments will conclude in FY 2012.

BPA also expanded its use of non-Federal borrowing to fund capital requirements. In 2003, BPA entered into a long-term capitalized lease agreement for the then-proposed Schultz-Wautoma transmission line.

Under the Schultz-Wautoma arrangement, BPA used its broad lease and lease purchase authority to enter into a long-term agreement to lease the project from a third party. Under the arrangement, BPA leases the line from the third party and committed to make fixed rental payments regardless of whether or not the project is completed, operating, or operable. With BPA's payment obligation in hand, the third party pledged BPA's payments to the payment of debt service on $120 million in bonds issued by the third party and sold into public debt markets. BPA's rental payments are the sole security for the payment of the bonds.

With the success and experiences of the Schultz-Wautoma transaction and in light of receiving further encouragement in the President's 2008 Budget to utilize non-Federal financing, BPA explored expanding the use of the Schultz-Wautoma model for further transmission asset acquisitions, thereby further conserving BPA's limited statutory borrowing authority.

A substantial portion of BPA's transmission infrastructure program involves replacements of and improvements to existing facilities. Since these projects are not large-scale single projects like the Schultz-Wautoma line, BPA explored using a lease model that would allow BPA to acquire a relatively large number of smaller transmission assets on a systematic basis. The result of these efforts is the Master Lease Program, which extends and modifies important features of the Schultz-Wautoma lease-purchase arrangement.

Under a master lease, BPA enters into an umbrella agreement (master lease) with an owner/lessor. This agreement governs a series of separate commitments that BPA and the owner may enter into from time to time. Each commitment is tied to a specific transmission project that the owner will lease to BPA. The separate commitments (one for each project) commit BPA to making rental payments to the owner. As with the Schultz-Wautoma transaction, BPA's rental payments are fixed and payable by BPA regardless of whether the related assets are operable or operating.

Under a master lease, BPA also obtains full rights from the third-party owner to operate, manage, and control the related assets until the leased projects are retired or BPA acquires them outright. To obtain funding for the projects, the owner pledges BPA's rental payments for the various assets as security for advances from a bank under a line of credit between the bank and the owner.

The initial terms for the lease commitments are relatively short term—about seven years. Eventually, once there are a substantial number of short-term commitments in place and construction concludes, BPA expects to renegotiate with the owner to extend the lease periods to reflect the remaining useful lives of the related assets. With these new terms and BPA's long-term commitment to make rental payments for the assets, the owner will issue long-term taxable debt and use the bond proceeds to pay off the draws made by the owner against the bank's line of credit.

Under the master lease, BPA has the option to acquire any or all related assets at any time during the term of the lease by making a purchase payment pursuant to a formula that would enable the owner to pay off related debt in full. BPA also has the option to pay a nominal purchase fee at the end of the lease and acquire any or all of the leased assets outright.

4.2 Objectives for Access to Capital

Despite the success of these financing programs, current analysis shows that BPA's capital requirements over the next decade will significantly outpace Federal principal payments. This trend places continued pressure on the remaining Treasury Borrowing Authority cap

because BPA would be using Treasury Borrowing Authority faster than it is replenished. In response, BPA has recognized the need to make access to capital planning an integral part of its strategic objectives and has reexamined and honed its capital access goals. BPA seeks to:

- Ensure that capital needs are covered over a rolling 10-year period.
- Develop strategies and tools that will extend BPA's Treasury Borrowing Authority availability over a rolling 20-year period.
- Ensure BPA is able to meet its capital requirements at least cost.

4.3 Analysis of Capital Needs

In order to evaluate progress toward the goals outlined above, BPA conducts capital access analysis regularly. This analysis is scenario based, revealing the impact of differing capital and financing assumptions on BPA's remaining Treasury Borrowing Authority and the impacts on total debt service levels and Federal amortization levels. Because this analysis covers a 20-year period, it provides a long-term view of BPA's Treasury Borrowing Authority availability, debt service costs, and amortization levels over multiple rate periods.

The results of BPA's recent capital access analysis are shown in Figure 4.1. This analysis is illustrative of the potential capital access problem. BPA updates assumptions periodically (at least annually) and may use updated assumptions for the final financial plan. The graph charts the results of two scenarios. The base scenario, entitled *A: Base Case*, assumes all future capital is financed using only Treasury borrowing availability, with the exception of new capital additions for EN's operating nuclear facility, CGS. The CGS capital is financed with municipal debt issued by EN (75 percent tax-exempt, 25 percent taxable). The base case shows that BPA's Treasury Borrowing Authority would be depleted during 2015.

The second scenario on the graph, entitled *B: Base Case + ML*, uses the same assumptions as the base case, except that $1.4 billion in assets are financed through the Master Lease Program, rather than using Treasury Borrowing Authority. Under this scenario BPA is just a year shy of meeting its first objective: BPA's Treasury Borrowing Authority availability would be depleted during 2017. From a 20-year standpoint, BPA's capital access picture presents a challenge in both scenarios, with a Treasury Borrowing Authority gap ranging from $4 to $5 billion.

The magnitude of the Access to Capital problem after FY 2017 is a significant concern and deserves further attention. BPA believes that part of this problem can be mitigated through expanded use of the Lease Financing concept, beyond the $1.4 billion estimate assumed in this analysis, assuming this relatively new tool continues to work as planned and remains cost effective. However, Lease Financing alone cannot solve this problem. The hydropower and transmission systems of the FCRPS are aging. BPA's needs for capital, just to maintain the existing system, are likely to grow in coming years. As is evident in Figure 4.1, unless new sources of capital are developed, BPA is likely to run out of its limited Treasury Borrowing Authority in FY 2017. Through the EN debt optimization program, BPA has amortized substantial amounts of federal debt resulting in a high outstanding balance of available Treasury borrowing. Within the next few years, this repayment pattern will reverse

and BPA will be repaying substantial amounts of EN debt and lesser amounts of federal debt. As this change occurs, the differential between BPA Federal debt repayment and federal borrowing will become much larger creating substantial risk of capital spending being limited by the federal borrowing limits. This is an issue that BPA and its customers need to be working to address over the next few years.

4.4 Next Steps: Exploring Possible Additional Tools

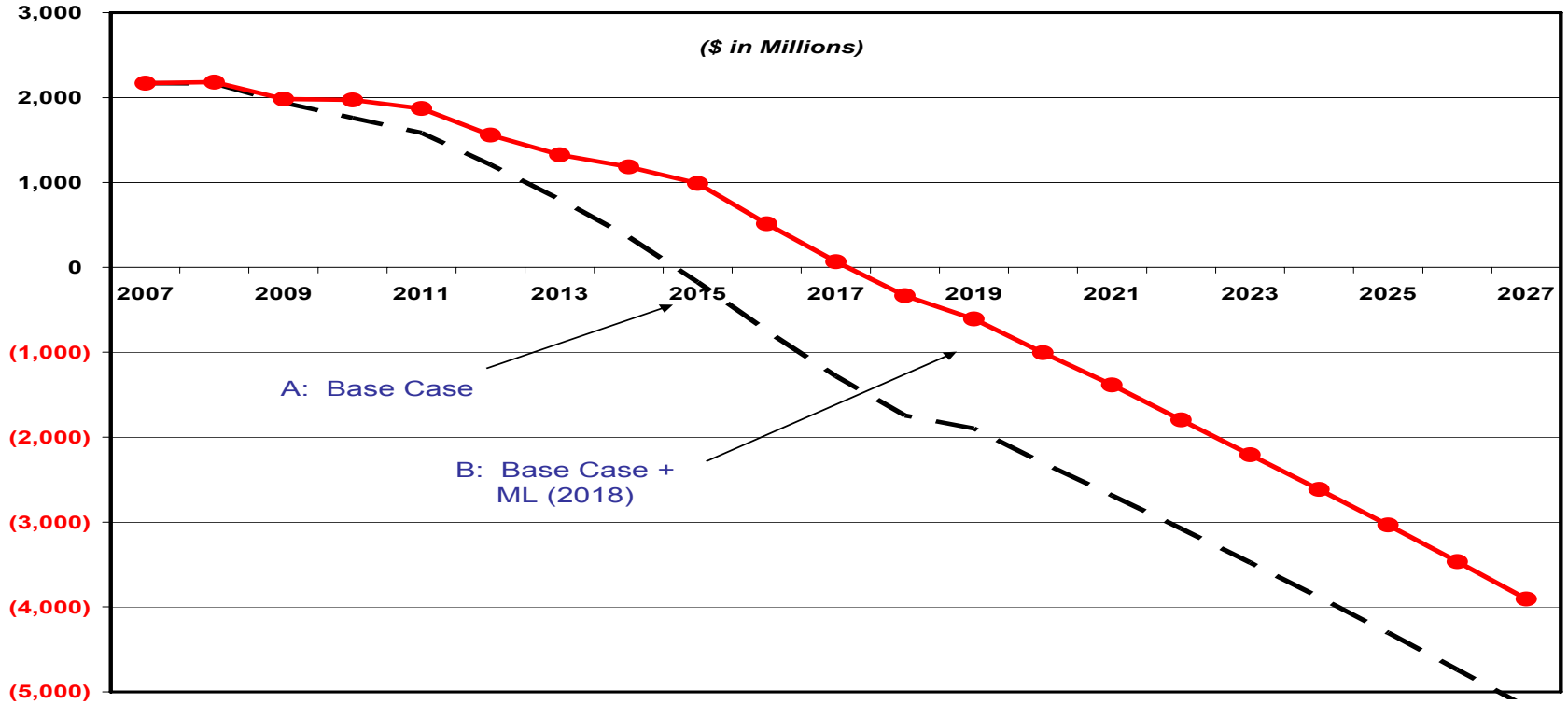
In 2007, BPA began to evaluate capital access beyond 2018, and is beginning to explore approaches to closing the post-2018 gap. As Figure 4.1 indicates, in order to meet planned capital requirements over a 20-year period, BPA must develop a capital funding plan that expands BPA's sources of capital. A successful capital funding plan will likely need to rely on a number of new tools and financing strategies in order to meet 20-year capital requirements. Below are some of the tools BPA will begin to explore.

- Direct access to the capital markets
- Increase Treasury Borrowing Authority
- Inter-functional loans
- Customer prepayments
- Revenue and/or reserve financing
- Expanded use of third-party borrowing beyond DO and transmission lease purchases
- Other new sources

These alternative sources of capital differ in terms of legal authorities required, costs/benefits, and general feasibility. Each will need to be evaluated both separately and in combination.

As BPA continues its work on establishing a capital funding plan to meet its planned capital requirements over the next 20 years, it will consult with interested stakeholders.

Figure 4.1: Remaining Treasury Borrowing Authority[13]



[13] Assumptions: The capital forecast for FY 2008-2013 is based on the FY 2009 President's Budget. The FY 2014-2027 forecast is shaped and escalated. An under-run factor has been applied to the Federal capital forecast. DO projections are $211 million in 2008 and $216 million in FY 2009. Revenue financing of $15million per year is assumed for Transmission in FY 2008-2009. Columbia River Fish Mitigation investment is projected to total $577 million through 2015. CGS new capital is projected to be $677 million through FY 2019, with level debt service through FY 2020-2024. CGS replacements are projected to be $4.7 billion for construction of a new plant, with debt service starting in FY 2025. Interest rates are from BPA's official forecast from October 2007.

5 Good Year/Bad Year Financial Planning

In one form or another, the issue of how to treat good and bad financial performance has been part of BPA's planning methodology since its inception. TPP is one way of measuring how "good" BPA's financial position is over a period of time, considering the prospects for both good years and bad years. Rate adjustment mechanisms, such as the CRAC and the DDC, constitute prototypic Good Year and Bad Year measures.

There have been numerous discussions on various aspects of Good Year and Bad Year financial planning over the years, some exploring in greater depth issues raised by the 10-Year Financial Plan, and others broaching areas not originally considered.

- The 10-Year Financial Plan proposed that a future update include a plan for the use of end-of-year financial reserves in excess of $800 million, which would split the funds between capital investments and rebates to customers.
- The 2002 and 2007 Power rate cases included extensive description and analysis of rate adjustment mechanisms such as CRAC and DDC.
- The 2006 and 2008 Transmission rate case settlements have included provisions for the drawdown of financial reserves to finance a portion of annual capital expenditures rather than reflecting a cash requirement for such in revenue requirements.

The issue of how to best take advantage of the unique opportunities that occur in good years has created a need for renewed discussion of BPA's Financial Plan within the region. In contrast to particular rate case forums, where specific proposals are detailed and implemented, this document seeks to identify potential alternative courses of action, propose a framework for comparing them, and discuss the trade-offs between various options

5.1 Potential Metrics

A prerequisite to identifying possible Good Year/Bad Year actions is defining what constitutes a good or bad year. This document proposes to look at a good or bad year in terms of BPA's financial health. Whether good/bad is defined in absolute terms or along a continuum, a central requirement is the specification of a metric by which different financial conditions may be compared. Ideally, such a metric would have the following characteristics:

- The metric should be familiar and well understood within the utility and business communities as well as BPA's stakeholders.
- Its measurement (or derivation) would be simple, or at least straightforward.
- The information disclosed by the metric should not be commercially sensitive.
- The metric should be sufficiently comprehensive in scope to describe the financial health of BPA as a whole, or at least that of reasonably self-sufficient BPA subunits.
- The metric should be unbiased and would not obscure potential financial tradeoffs between BPA business units or between customer groups.

There are several potential metrics for describing BPA's financial health.

5.1.1 Accounting Revenues

Accounting revenues are a common measure used in the determination of a business's financial health. Three variations of the accounting revenues measure are offered for consideration.

Net revenues

- Net revenues = total revenues minus total expenses.
- An advantage of using this particular metric is that it would be most closely related to the greatest financial variability for both the Transmission and Power business units. This metric is also transparent, since it appears on BPA's financial statements.
- A disadvantage associated with this metric is that a change in the result does not always reflect the reserves available for risk attributed to the business unit.

Modified net revenues

- Modified net revenues (MNR) = net revenues minus actual EN debt service for the year plus EN debt service forecast in the last Power rate case minus the FAS 133 mark-to-market adjustment for derivatives for the year.
- This metric has the advantage of fitting with the current trigger for a Power CRAC and DDC (and would be equal to net revenues for Transmission).
- As with simple net revenues, a disadvantage associated with this measure is that a change in the result does not always reflect the reserves available for risk attributed to the Business Unit.

Net secondary revenues

- Net secondary revenues = trading floor sales minus trading floor purchases minus transmission costs associated with trading floor sales
- An advantage to using net secondary revenues as the metric for measuring financial health is that it would be most closely related to the greatest financial variability for the Power function.
- Disadvantages associated with the use of the metric are several: there is no comparable metric for Transmission; the data supporting this metric may be commercially sensitive; and the end-of-year result does not always reflect the reserves available for risk attributed to the business unit.

5.1.2 Financial Reserves

Financial reserves are the sum of cash in the Bonneville Fund and deferred borrowing. Deferred borrowing is the difference between capital investments for which BPA has paid with cash from the Bonneville Fund and the amount borrowed for such investments from the U.S. Treasury. This metric could use the actual result or forecast of a business unit's financial reserve balance at the end of a year or be used as an input for a TPP assessment. The advantage of using financial reserves as a metric is that it is the most direct measure of BPA's ability to pay its bills, including its payments to the Treasury. There are, however, some concerns associated with the use of this metric:

- Actual financial reserve levels do not necessarily reflect results from operations as well as do net revenues or modified net revenues.
- Business unit reserves are not audited by outside auditors and are therefore not reported separately in BPA's public financial statements; thus, they lack the desired transparency.
- Financial reserves might be seen as subject to significant variation not due to operating reasons such as the difference in timing of bills being paid and receipts being collected.
- Not all financial reserves are available for risk. For the purposes of Good Year/Bad Year planning, a financial reserves metric should be upon reserves available for risk, which would generally include numerous adjustments to a business unit's total financial reserves. For example, Power's balance includes deposits from other Federal agencies for energy efficiency projects. Transmission's balance includes customer deposits for interconnection projects, projects funded in advance of construction, and reimbursable projects. These funds should not be considered available for uses beyond their specific purpose, which means they are not available to mitigate BPA's operating risks. To put this issue into perspective, as of BPA's second quarter FY 2008 review, forecast end of fiscal year 2008 reserves were about $1.61 billon, of which reserves available for risk were about $1.26 billion.

5.1.3 System Operations

Although not usually considered as a metric for BPA financial health, system operations could be used to focus on energy production in the Power function (with several options for a comparable metric for Transmission).

- Although this metric provides the most direct link to system performance, it is not always readily transparent, because operational data may not always be publicly available.
- As a metric, the concept of system operations is blind to market prices, which significantly affect actual financial results.
- Also, with systems operations, the end of year result does not always reflect the reserves available for risk attributed to the business unit.

5.1.4 Combined Metrics

Finally, it is possible that some metrics could be combined to provide the basis for measuring BPA's relative financial health. In such an instance, one metric would be identified as the primary metric, and the primary metric being met would trigger additional analysis. Any other metrics could be used as constraints.

For purposes of illustration, consider the following: Assume MNR is the primary metric for determining whether a year is good, bad, or neutral. Actions could be constrained by reserves available for risk. In this example, a high MNR result may define a good year, but the actions that BPA might take would be restrained if the business unit had just experienced a bad year and TPP for the rate period or a subsequent rate period was lower than the standard because of low reserves available for risk.

5.2 Conceptual Framework

As noted above, the purpose of this Good Year and Bad Year planning effort is to generate, document, and begin evaluating issues and possible actions BPA might consider taking over the long term. In order to facilitate discussion of a complex issue, BPA developed a conceptual framework that would allow potential actions or measures to be laid out graphically. This framework is depicted in Figure 5.1, which has the following characteristics:

- Good Year and Bad Year conditions are laid out along a continuum of BPA's relative financial health as measured against a midpoint, identified in this example as the start-of-year (SOY) expectation for the metric of choice. BPA would take different types of actions depending upon *how* good or *how* bad a particular year is in relative terms.

- The continuum describes conditions when BPA might consider particular actions. These conditions are not depicted as hard thresholds because they may vary from year to year. However, if BPA were to propose a plan of action with thresholds and the methodology for determining them, the process to develop this specific action plan would occur in a rate case.

- The focus in Good Years and Bad Years is different. The actions taken in Bad Years would tend to focus on conditions within the year, while the actions taken in Good Years may take on a longer term view. In large part this ensures that BPA's ability to make its annual Treasury and vendor payments creates a downside limit. No such limit exists on the upside.

- For Good Years, the continuum starts when any upward change occurs in the metric defining financial health. As the metric continues to increase, the business unit's remaining rate period or subsequent rate period TPP begins to exceed the minimum standard. Continued increases in the metric could result in higher TPP for the next rate period.

- For Bad Years, the continuum starts with any downward changes in the metric defining financial health. As the metric continues to decrease, the business unit's TPP begins to decline. Continued decreases in the metric could result in a higher likelihood of missing Treasury or vendor payments.

- The measures or actions BPA has identified have been mapped onto the continuum at the point where conditions would allow these actions to be implemented. To reiterate a point made above, the ordering of the measures along the continuum merely describes potential actions. It should not be read as a proposed package or list of measures BPA is planning to implement. Any of the actions could be part of specific proposals in future rate cases.

- The measures or actions that are mapped onto the framework tend to encompass the possibilities of both Good and Bad Years. BPA's reliance on substantial financial

reserves is one example of that concept: in Bad Years, reserves can be drawn upon to pay bills, and in Good Years, reserves can be replenished. Another approach is to include both a CRAC and a DDC in rate design.

5.2.1 Possible Actions in Good Years

As depicted in Figure 5.1, the first thing that happens on the "good" side of the continuum, by default, is that as the metric increases, reserves begin to build. Barring any other measure or action, this increase in reserves would continue unabated as BPA's financial conditions improved.

If conditions improve to the point that then-current rate period TPP grows, four additional courses of action could be taken individually or in combination. These actions would be implemented to address specific needs.

- *Use of reserves for funding capital investments.* Reserves could be used in lieu of planned borrowing to help preserve access to borrowing authority. This differs from deferred borrowing which occurs when BPA temporarily uses cash to pay for an investment with the explicit intention of borrowing for it later.
- *Use of funds for advanced amortization payments.* Funds could be used to make early payments on Federal bonds to help preserve access to borrowing authority.
- *Use of reserves to fund targeted program spending.* Funds could be dedicated to targeted programs, particularly those where spending has been reduced in the past.
- *Rebates to customers.* This could simply be a continuation of the DDC mechanism currently incorporated into BPA's 2007 Power rates or something similar in concept. It could also be extended to Transmission.

If conditions were to further improve so that the TPP for the next rate period were to increase, BPA might be able to propose in the next rate case to use funds to reduce rates in the next rate period.

5.2.2 Possible Actions in Bad Years

Figure 5.1 shows that on the "bad" side of the continuum, as the financial health metric decreases, reserves begin to decline. Barring the use of some form of mitigating measure or action, this decrease in reserves would continue.

As BPA's financial health declines further, moving from the initial decline in the metric toward the point where within-rate-period TPP declines or where the annual Treasury payment is in jeopardy, additional courses of action could be taken individually or in combination. These actions would be implemented to address specific needs. This list is meant to be illustrative of the actions available to BPA. It is not meant to be the specific order in which actions will be taken, which would be determined at the time action is needed.

- *Borrow for previously reserve-financed investments.* If investments have remaining useful lives and sufficient borrowing authority is available, BPA could borrow for assets previously paid for out of reserves. The same is true for assets previously paid

for through explicit revenue financing. This action could require advance disclosure to Congress if it resulted in BPA exceeding the capital budget in the Congressional Budget.

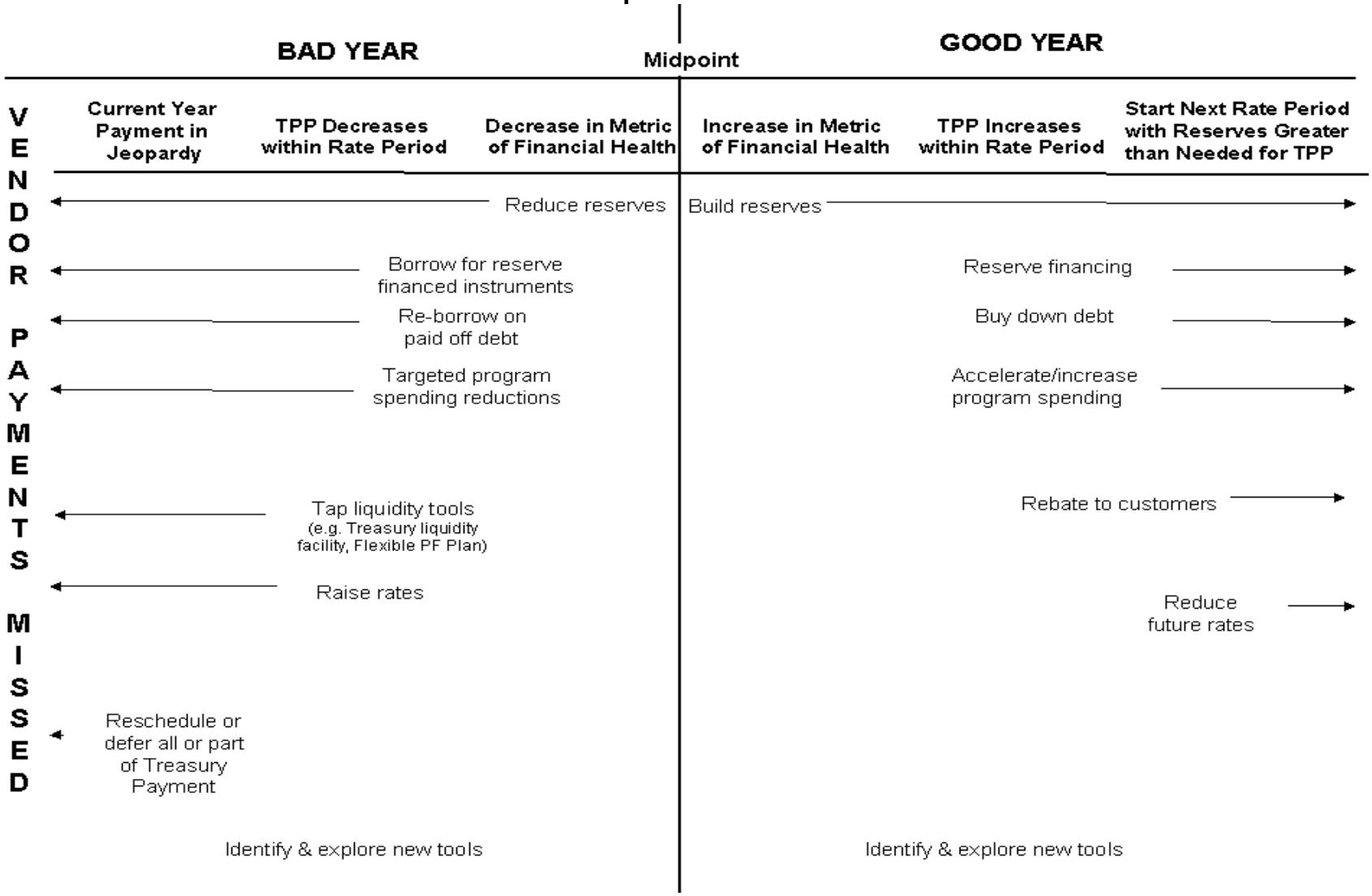
- *Re-borrow for paid-off investments.* If investments have remaining useful lives and sufficient borrowing authority is available, BPA could re-borrow for the remaining available term. This action could also require advance disclosure to Congress.
- *Targeted program spending reductions.* This action may require increased spending in the future to ensure program objectives are achieved. If appropriate, reductions could be tracked to facilitate catch-up spending in the future.
- *Employ liquidity tools.* BPA could use liquidity tools such as the Treasury liquidity facility and Flexible PF program.
- *Raise rates.* BPA could use a rate adjustment mechanism or initiate an expedited rate case.
- *Reschedule Treasury repayment.* BPA could reschedule or defer all or part of the planned Treasury payment.

5.2.3 New Tools

The Good Year and Bad Year actions described above are those that are potentially available for use today. They are generally symmetrical (i.e., raise rates – lower rates, cut program spending – increase program spending). Examples of new tools that are currently at the initial stages of consideration are the following:

- *Variable debt service.* In good years, accelerate principal payments and reduce planned principal payments for the following year. If the next year is a bad year, the small planned payment helps. If the next year is normal, pay the scheduled small amount and accelerate more payment, and reschedule the following year's debt.
- *Catastrophe bonds.* In private markets, these are debt instruments in which the issuer's obligation to pay interest and/or repay the principal is either deferred or completely forgiven if the issuer suffers a loss from a particular pre-defined catastrophe.

Figure 5.1
Conceptual Framework



5.2.4 Evaluating possible actions

If BPA implements any subset of these actions as part of strategies developed in a rate case, BPA would need to balance competing interests and needs and make tradeoffs. Among the potential criteria BPA might use in evaluating possible actions are the following:

- *Business unit health.* How is each of the business units faring individually? Are they experiencing Good, Bad, or neutral years? Is it possible or necessary to use funds from one business unit to cover a shortfall in the other?
- *Other Financial Plan needs.* What is the current status of access to capital? Is BPA nearing the exhaustion of available Treasury Borrowing Authority?
- *Current borrowing conditions.* What is the current interest rate environment, particularly in comparison to interest rates on outstanding Treasury bonds?
- *Program spending levels.* Are there programs that are in jeopardy of not achieving program objectives due to recently reduced spending levels? Are there programs that have recently experienced spending cutbacks?
- *Rate environment.* Has the business unit experienced significant rate volatility, or have rates been stable? Are rates approaching market value?
- *Short-term vs. long-term trade-offs.* What impact will immediate decisions have on the long-term financial health of the agency or individual business units?

5.3 Next Steps

As noted earlier**,** the purpose of the Financial Plan is not to produce a detailed Good Year/Bad Year plan with specific metrics, thresholds, and detailed courses of action. This planning process is intended to serve as a foundation for discussion and future analysis. BPA expects that the breadth and depth of the issues and actions considered in this section will continue to evolve. Absent a detailed Good Year/Bad Year plan, BPA may also choose to pursue any of these actions if circumstances warrant it, based on continued internal analysis and discussion with BPA's stakeholders.

6 Cost Recovery Policy

6.1 Statutory Obligations

From its very beginning, BPA has had the statutory obligation to recover its costs through its rates. The Bonneville Project Act (as amended) establishes several requirements for what constitutes cost recovery. In the section "Elements in determining rates," the law requires:

> Rate schedules shall be drawn having regard to the recovery … of the cost of producing and transmitting … electric energy, including the amortization of the capital investment over a reasonable period of years.[14]

With the passage of the Flood Control Act of 1944 (as amended) an additional requirement was placed on BPA:

> [T]he Secretary of Energy … shall transmit and dispose of … power and energy in such manner as to encourage the most widespread use thereof *at the lowest possible rates to consumers consistent with sound business principles [emphasis added]*. . . . Rates schedules shall be drawn having regard to the recovery … of the cost of producing and transmitting such electric energy, including the amortization of the capital investment allocated to power over a reasonable period of years.[15]

This mandate for BPA's cost-based rates, that they be the lowest possible, is given the underlying requirement that the costs necessary to be recovered by those rates, including "amortization of the capital investment," must be defined consistent with sound business principles. These concepts of setting rates consistent with "sound business principles" in order to ensure repayment of the Federal investment were reiterated in the Transmission System Act of 1974 (16 U.S.C. §838) and the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (16 U.S.C. §839).

6.2 Defining Costs and Cost Recovery

BPA first described its interpretation of "the cost of producing and transmitting" electricity in the 1940s. Consistent with the account structure of the Federal Power Commission (FPC), the standard costs were defined as all operation and maintenance expenses, interest on the Federal investment, and depreciation.[16] Essentially, these are the typical accrued expenses found on an income statement. This cost accounting interpretation continues today.

[14] Bonneville Project Act, 16 U.S.C. §832f
[15] Flood Control Act, 16 U.S.C. §825s
[16] See for example, BPA's 1945 Annual Report and BPA's first Report on Repayment of Operating Expenses and Construction Costs from 1946.

However, while the expenses associated with "the cost of producing and transmitting" electricity may be relatively straightforward, defining and describing the basis for the "repayment of the Federal investment" is not. From the beginning, there has been a mismatch between the expected economic useful life of the hydroelectric plant assets and the period in which the investments must be repaid. As cited above, rates are required to be set to assure the repayment of the Federal investment over "a reasonable period of years." As defined in Federal policy from the outset, the "reasonable number of years" was deemed not to be the average service life of the longest-lived assets. Generation projects are expected currently to be economically viable for 75 years on average, which is the basis for their depreciation expense in the FCRPS financial statements. However, the applicable policy for repayment was made to be *average service life or 50 years, whichever is less*. A reasonable period for repayment, then, was to not exceed 50 years, regardless of a longer expected economic life. Consequently, depreciation expense could never be adequate to provide the funds for timely repayment of the generating projects.

In regard to repayment of the Federal investment, then, an inevitable tension between accrual and cash accounting was established at the outset. Prior to the shift to self-financing and the creation of the Bonneville Fund in 1974, annul repayment was made based on cash that remained in BPA's accounts at the end of each year, primarily the sum of depreciation and net revenues (or surplus funds as they were referred to). As a result, the repayment of the Federal investment would ebb and flow with the natural variation in the annual net revenues of a hydro-based system. After a project was fully repaid, it would continue to produce cash for the period that the depreciation life exceeded the repayment cap. However, under the policies of the time, that additional cash would not be available for repayment of investment in other projects in the system, but was considered "unassigned receipts" that the Treasury could use at its discretion.

The early repayment standard set by BPA proved to be too rigorous, at least in the context of providing low-cost power. The Grand Coulee Dam—Third Powerplant Act of 1966 recognized that BPA had changed the repayment requirements. As stated in the 1963 Annual Report:

> We no longer follow the severe schedule for paying out each project, individually, over a 50-year period. We have adopted a less severe schedule know as "Consolidated System 50-Year Rate of Payout Plan". It will still pay out each project within 50 years after completion, but on a system basis by which the continuing revenues from each older project after it is paid out will be used to help repay the remaining balance on newer projects.

A key element of the "Consolidated System 50-Year Rate of Payout Plan" was that it tended to create what were known as 'surplus revenues' after the power investment costs and irrigation assistance had been repaid. The treatment of these surplus revenues, however, was very different from the previous surplus funds. The legislative history of the 1966 Act states:

> These surplus revenues, when the time comes, may be used to assist the repayment of the new irrigation or power projects.

Under the consolidation concept, BPA had shifted to a methodology that developed a payout plan calculated in the newly created power repayment study. At this point, BPA moved away from fitting repayment under the revenues from the initial rates for delivered power (depreciation plus whatever net revenues were available). BPA moved to establishing rates calibrated to recover a specific set of costs (a revenue requirement), including a repayment schedule determined by the study, which sought the lowest levelized debt service.

The Third Powerhouse Act required that the consolidated repayment schedule be tested annually to ensure the adequacy of revenues for timely payout. As designed, that test was a mix of accrual and cash elements: accrual revenues, O&M and purchase power expenses, but essentially cash interest and principal repayment. This Act reinforced BPA's long-standing cost recovery criteria: revenues should recover BPA's costs and ensure repayment of the Federal investment. It also redefined the cash criteria used in establishing revenue requirements for rate setting, by allowing BPA to create repayment schedules as noted above. Into the mid-1980s, the repayment element in BPA's revenue requirement was the Net Repayment Requirement. Added to the accrued O&M, purchased power, and depreciation expenses, this component was the interest and amortization from the repayment study less the depreciation expense. When filed with the FPC and FERC, the test for the adequacy of BPA's rates always has been the cash basis of repayment.

6.3 Current Revenue Requirement Policy

In 1985, BPA began preparing the FCRPS financial statements in accordance with generally accepted accounting principles (GAAP). This was in response to a series of qualified opinions that BPA's independent auditors had issued, in part due to BPA not complying with GAAP. In the rate case immediately following the change to GAAP conformance, BPA made corresponding changes to the development of revenue requirements. The pro forma income statement became the basis for revenue requirement determination. As described in BPA testimony for the WP-87 proceeding:

> Q. What is a cost-based revenue requirement?
> A. The Department of Energy's Order RA 6120.2…states that "forecasts should be designed to approximate as closely as possible the results expected to be achieved in the historical power system financial statements." It further states that "power system financial statements will be prepared in accordance with generally accepted accounting principles." BPA has an additional statutory requirement to recover the principal of the Federal investment within a reasonable number of years. BPA's cost-based revenue requirement must also satisfy this condition. Therefore, for BPA a cost-based revenue requirement is one that reflects expected expenses as recognized by the application of generally accepted accounting principles and sound business principles, as well as assures the repayment of the Federal investment over a reasonable period of years.[17]

[17] See the testimony of Mark Roberts, WP-87-E-BPA-15, pg. 16.

Since the 1987 general rate case, BPA has set rates to meet two standards. First, the revenues generated by the proposed rates should be at least equal to total accrued expenses as determined in the revenue requirement (composed of operations and maintenance expenses; purchased power and transmission service costs; net interest and depreciation expenses). Second, to the extent that cash from operations is less than cash requirements in the rate period, a revenue requirement component, Minimum Required Net Revenues (MRNR), is added to total accrued expenses so that forecasted cashflows in the rate period are at least neutral.

Typically, if MRNR is not required, it means that the revenue requirement forecasts that the business unit will accumulate cash in reserves. For much of the last two decades, generation revenue requirement studies projected cash accumulation that provided funds for risk mitigation.

These standards are not unlike BPA's early methodology for measuring the adequacy of its rates. From the beginning, BPA conducted a two-part rate test. The first test looked at accrued expenses, evaluating whether forecasted revenues would be sufficient to recover BPA's "costs computed in accordance with the Federal Power Commission's System of Accounts." The second test looked at cash flow, evaluating whether forecasted revenues would produce sufficient cash to meet the "payout provisions" (i.e., repayment of the Federal investment) embedded in statute.[18]

6.4 Third-Party Debt Service Influence on Repayment

BPA includes the debt service on its capitalized contract assets in the repayment study. Because these are fixed payment streams that have a higher repayment priority than the Federal investment, the study schedules Federal repayment around these annual amounts in developing a combined levelized repayment schedule. If the non-Federal debt service is a flat stream, there generally is little effect. However, having "peaks and valleys" in the non-Federal debt service generally produces an opposite effect on Federal repayment. A "peak" or spike in non-Federal debt service will diminish Federal repayment scheduled in that year or period, and a "valley" or drop will be filled in to a certain extent with Federal repayment.

While the combined third party debt service and Federal interest and amortization are levelized in the repayment study, they do not produce a similar effect on revenue requirements. As a purchase power expense component, non-Federal debt service, both principal and interest, is an accrued operating expense. Of the Federal debt service, only interest is an accrued expense. Annual expenses include only depreciation (or amortization of intangible assets), a non-cash expense, as the recovery of the investment in utility plant (or intangible assets). The repayment of principal is a cash requirement and is included in revenue requirements through the MRNR described above.

[18] These tests, particularly the second one, are mentioned in most BPA annual reports from the 1940's and 50's. For the clearest description both tests see, Bonneville Power Administration, Report on the Columbia River Power System, 1949, pg. 23.

6.5 Debt Optimization

BPA's debt service requirements—Treasury bonds and Congressional appropriations, as well as non-Federal debt service payment requirements—are managed as a single portfolio. In FY 2001, BPA initiated the DO Program in conjunction with EN to replenish BPA's limited Treasury Borrowing Authority. The basic mechanism of DO is that, when 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 in the 2013 to 2018 period. The cashflows that otherwise would have paid the principal of the refunded EN debt are used to repay an equivalent amount of Federal repayment obligations (primarily bonds issued to the U.S. Treasury, but also Congressional appropriations under certain circumstances), thereby restoring BPA Treasury Borrowing Authority or providing opportunities for future restoration of borrowing authority. DO repays Federal generation obligations in the current period in amounts that, absent DO, have been scheduled to be repaid during the FY 2013 to 2018 period. This was done in a manner that would not increase the combined levelized Federal and non-Federal debt service in the generation repayment study to meet a requirement that power rates would be no higher as a result of DO than if DO had not occurred.

The different treatment of Federal and non-Federal debt service in the development of revenue requirements makes it apparent that there are upcoming circumstances when Power revenue requirements under current cost recovery practices could be higher than if DO had not occurred. Power revenue requirements in the FY 2013-2018 period will have very high EN debt service from the combination of the debt that was originally due at that time and the debt that was extended into that period. Federal principal repayment, on the other hand, will largely be held down by the high EN debt service. However, the revenue requirements will be driven by depreciation/amortization expense and will provide large cashflows from the difference between the non-cash expenses and the low cash repayment requirements. This will not allow a compensatory decrease on the Federal debt service side for the intentional increase on the non-Federal debt service side. Certain customers have viewed this situation as paying twice for EN debt service.

6.6 Cost Recovery Implications

What could be done to address these circumstances when cash generated from rates exceeds annual repayment needs? Given the history described above, perhaps nothing should be done because it fits with the early view of the use of such funds ("surplus revenues") for reinvestment in the system. Revenue financing, for example, would be consistent with that view. Alternatively, these funds could be used for risk mitigation, which was how they were deployed in Power revenue requirements in the 1990s. However, this becomes complicated with the Slice product, which has no such requirements in its revenue requirement. How would potentially manipulating this element affect cost recovery? Although it might seem logical to undo the accumulated net revenues that have been inflated as a byproduct of DO, would it be contrary to sound business principles and GAAP accounting requirements to plan, as an example, for a loss by utilizing negative MRNR? Could cost recovery still be demonstrated in power rate filings with such mechanisms incorporated? Would customer

rebates or refunds after-the-fact be better suited to satisfy all requirements? What is the best resolution for BPA and customers?

6.7 Next Steps

Based on the current outlook, BPA does not expect that cash generated from rates will exceed annual repayment needs in the immediate future. However, BPA does expect that Power revenue requirements after FY 2011 will forecast periodically an accumulation of cash, as described in the DO discussion in this section. BPA will continue to explore options, including modifying current policy, for addressing periods when cash inflow exceeds annual repayment needs, As this condition becomes manifest, BPA will meet with stakeholders to discuss ways of addressing this issue.

7 Conclusion

As noted in the introduction, the Financial Plan is intended to provide a foundation for the development of new or revised financial policies and practices, as they are needed. This planning process has been designed to generate, document, and evaluate issues and possible actions surrounding four key financial issues: the use of financial risk metrics, access to capital, good year/bad year financial planning, and cost recovery. BPA expects that the breadth and depth of issues and actions considered in this Financial Plan will continue to evolve as conditions change and new ideas are developed and that the ideas described in this document will guide the implementation of specific, actionable proposals for implementing the financial policy in future rate cases. Descriptions of current policy and BPA's expectations about continued research and analysis are summarized below.

Financial Risk Metrics. BPA will establish rates for Power and Transmission services such that each business unit demonstrates a 95 percent probability of meeting its obligations to the U.S. Treasury at the end of each two-year rate period or the equivalent probability for different length rate periods as incorporated into this Plan. The Financial Plan provides guidelines for BPA as it studies and develops analytical tools and metrics for within-year liquidity needs. BPA will propose to apply any new standard for ratemaking, such as a Vendor Payment Probability, in a formal rate proceeding.

Access to Capital. The magnitude of the Access to Capital problem after FY 2017 is a significant concern and deserves further attention. Unless new sources of capital are developed, BPA is likely to run out of its limited Treasury Borrowing Authority in FY 2017. As BPA continues to analyze this problem, it will focus on ensuring continued access to Treasury Borrowing Authority on a rolling, 10-year basis, using an appropriate mix of Federal and non-Federal sources of capital for future investments. The Financial Plan establishes parameters for BPA as it continues to explore options identified in this section of the document, along with additional new alternatives that might be developed, with the ultimate goal of ensuring access to Treasury Borrowing Authority on a rolling 20-year basis. As BPA continues to develop a capital funding plan to sufficiently meet capital requirements over the next 20 years, it will consult with interested stakeholders through public workshops or other forums.

Good Year/Bad Year Financial Planning. BPA will explore appropriate ways to use the results of years of good financial performance to improve, or at least not impair, BPA's ability to cope with years of poor financial performance. The conceptual framework described in this document identifies a number of tools that could be used in various circumstances to improve BPA's financial health. These, and additional new tools, will be developed in future rate cases to address the various dimensions of financial risk that BPA must deal with in order to make its Treasury payments.

Cost Recovery. Consistent with existing practice, BPA will continue establishing rates for Power and Transmission services such that the forecast of total accrued revenues is at least equal to the forecast of total accrued expenses and cash flow is at least neutral. BPA will continue to explore options, including modifying this policy, for addressing periods when cash inflow exceeds annual repayment needs on a planning basis through application of this policy.