

2012 BPA Rate Case Customer Workshop

**Risk Analysis & Mitigation
in BPA's 2012 Rate Case
May 26, 2010**



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Introduction

- This presentation provides an overview of BPA's general approach to risk analysis and risk mitigation in rate cases.
- Many of the topics covered are going to be rate case issues – BPA is indicating general directions and inclinations here, or sometimes possibilities, and BPA welcomes comments and suggestions.
- In fact, comments, questions and suggestions are welcome throughout the presentation. If the comments we receive during today's discussion indicate that follow-up on some topics is important, we can take some time before this workshop concludes to talk about how to set that up.



Risk Overview

- BPA's main financial risk metric is Treasury Payment Probability (TPP)
- TPP is now one of the three major tests that rates must meet:
 1. Cost recovery on a net revenue (accrual) basis.
 2. Cost recovery on a cash basis.
 3. A 95% probability of being able to meet obligations to the Treasury in both years of a two-year rate period.



Brief TPP History

- 95% standard adopted in the 1993 10-Year Financial Plan.
- Starting in the 2002 rate cases – separate for Power and Transmission – BPA has applied the standard to each business line independently.
- Reaffirmed in 2008 Financial Plan process.
- BPA is not planning to change this approach.



BPA's General Approach to TPP

- BPA creates Monte Carlo models of financial risks, chiefly variability in revenues and expenses.
- Runs a large number of games (iterations) of the sequential years in a rate period plus the prior year (e.g., 2011 through 2013).
- Counts the number of games in which both Treasury payments are made.
- If the percentage of successful games $\geq 95\%$, no further action is needed. If not, risk mitigation must be strengthened.



Transmission Risk

- The primary risk analysis tool is the Transmission Risk Analysis Model (TRAM) written in Excel and @Risk.
- Has been used in each Transmission rate case since 2002.
- TRAM contains risk models and TPP calculations.
- Transmission Services (TS) TPP has been > 99% in each of last 5 rate cases with \$0 Planned Net Revenue for Risk (PNRR) because reserves available for risk attributed to TS have been robust.



Reserves Available for Risk (Transmission)

- Includes:
 - Cash in the Bonneville Fund
 - Treasury Specials in the Bonneville Fund
 - Deferred Borrowing
- Excludes (i.e., “encumbers”):
 - Funds held for others
 - Large Generator Interconnection Agreement (LGIA) deposits
 - California Oregon Intertie (COI)/Network Open Season (NOS)/Master Lease deposits



TRAM

- Both revenue and expense risks are modeled.
- Most risks will be refreshed from previous modeling.
- Interest expense uncertainty was not modeled in 2010 rate case version but will be for 2012 rate case.
- TRAM will be reviewed from top to bottom this year and cleaned up.



Power Risk

- Three primary models:
 1. RiskMod simulates operating risks and yields games of PS net revenues (e.g., uncertainty in CGS power output); Excel, VB, VBA & @Risk.
 2. NORM (Non-Operating Risk Model) simulates other risks (e.g., uncertainty in CGS O&M budget); Excel & @Risk.
 3. The ToolKit models operation of CRAC(s) and DDC, and calculates TPP; Excel & VBA.



RiskMod

- Planned changes or updates:
 - Incorporating tiered rates is a major overhaul (TOCA, System Shaping Charge, Demand Charge, etc.).
 - Clean out “dead wood.”
- Under Consideration:
 - Including intertie capacity variability
 - Including regional wind variability



NORM

- Planned changes or updates:
 - Interest rate uncertainty will be modeled.
 - Review all risk parameters.



ToolKit

- Planned changes or updates:
 - Ordinary maintenance and clean-up.



Risk Mitigation Tools (Power)

- We are looking at using the same mix of tools used in the 2010 rate case:
 - Reserves available for risk
 - \$450 million of the Treasury Note
 - Cost Recovery Adjustment Clause (CRAC)
 - Dividend Distribution Clause (DDC)



Reserves Available for Risk (Power)

- Includes:
 - Cash in the Bonneville Fund
 - Treasury Specials in the Bonneville Fund
 - Deferred Borrowing
- Excludes (i.e., “encumbers”):
 - Funds held for others
 - Suspended Residential Exchange Program (REP) payments
 - Energy Efficiency deposits paid to BPA in advance of use



Use of the Treasury Note

- In 2009, the short-term expense note from the Treasury was increased from \$300M to \$750M.
- \$300M has been dedicated to within-year liquidity needs (uncertainty and timing issues), meaning liquidity reserves set to \$0.
- The Administrator determined in the 2010 rate case that \$450M could be used for TPP support for Power rates (a rate case-by-rate case decision).



Cost Recovery Adjustment Clause

- Power rates have included at least one CRAC since 2002, and in prior rates on a less regular basis.
- Trigger metric since 2002 has been Accumulated Modified Net Revenue (excludes impacts of FAS 71 derivative accounting and of Debt Optimization transactions post-Final Studies).
- 2010 CRAC trigger set at AMNR equivalent of \$0 in Power risk reserves.
- Cap on annual collection was set to \$300M.
- Does not apply to Slice rate.
- Will not apply to Tier 2 rates.



NFB Mechanisms

- NFB Adjustment
 - If an “NFB event” occurs, the cap on the CRAC applicable to the next year’s rates can be increased by the amount anticipated NR is decreased by the NFB event.
- NFB Emergency Surcharge
 - If an NFB event occurs and BPA’s within-year Agency TPP is below 80%, BPA can increase rates quickly to help avert a Treasury deferral.



NFB Events in 2010 Rates

- In the 2010 Power rates there are four kinds of NFB Events possible, all related to the FCRPS BiOp litigation:
 1. A court order;
 2. An agreement, whether court-approved or not;*
 3. A new FCRPS BiOp; and
 4. A BPA commitment to implement a recovery plan.*

* These must result in the resolution of issues in, or the withdrawal of parties from, the litigation.



NFB Events in 2012 Rates

- BPA will probably propose adding another kind of NFB Event – actions taken under the Adaptive Management Implementation Plan (AMIP) that the Administration has linked to the BiOp.
- There are other BiOps that could result in unplanned financial impacts for BPA, but probably not by 2013; we do not plan to add other BiOp actions to the NFB definition.



Dividend Distribution Clause

- Power rates have included the DDC since 2002.
- Trigger metric is Accumulated Modified Net Revenues (AMNR).
- 2010 DDC trigger set at AMNR equivalent of \$750M in Power risk reserves.
- Cap on DDC amount was set to the amount that would effectively reduce the PF LLH energy rate to \$1/MWh.
- Does not apply to Slice.
- Will not apply to Tier 2 rates.



Tier 2 Risks

- Still working on the analysis of Tier 2 risks.
- So far, we have not identified financial risks associated with Tier 2 that are not adequately mitigated by terms and conditions.
- So far, it appears that no additional risk mitigation treatments will be required to keep Tier 2 costs and risks from affecting Tier 1 rates.



Wind Risk

- Uncertainty about installed wind capacity in the BPA BAA
 - In 2010 rate case, TS and PS each bore 50% of the risk around Wind Balancing Service revenues (embedded cost portion); modeled in TRAM & NORM.
 - BPA will review this approach for purposes of the 2012 rate case.
- Uncertainty in energy output of PS' wind resources
 - Modeled in RiskMod.



Use of Transmission Risk Reserves

In the 2010 rate case, TS risk reserves were used for three purposes:

1. \$15M/year used (planned to be spent) for “reserves financing” of capital projects;
2. In the revenue requirement, \$40M (2-year total) was used (planned to be spent) to keep the overall TS rate increase to 0%;
3. Support of the Transmission TPP (no spending was planned for this use).



2012 TS Reserves

- BPA could propose rolling over the three uses of TS reserves – capital project funding, rate relief, and TPP support.
- While the quantitative 2012 rate case TS risk analysis has not begun, it is very likely that TS risk reserves will be more than sufficient for the above three purposes.
- At the same time, it is obvious that the execrable secondary marketing results of 2009 and 2010 have seriously depleted PS reserves.
- Which inevitably raises a question:
 - **Could BPA Make Use of TS Reserves to Help PS Rates?**
 - Maybe ...



Some Options for Treating Reserves

1. Keep Power and Transmission reserves separate with no reliance by one business unit on the other's reserves.
2. Treat all reserves as one pool, with no business unit distinctions, that can be drawn on by either business unit, as needed.
3. Keep Power and Transmission reserves separate with either a) explicit or b) implicit inter-business unit loans.



1. Keep Power and Transmission reserves separate with no reliance by one business unit on the other's reserves

- This has been BPA's general practice since the two business units were separated.
- Does not allow for helping PS rates through use of TS reserves.
- Keeps transmission-generation equity issues very clean.



2. Treat all reserves as one pool, with no business unit distinctions, that can be drawn on by either business unit, as needed

- Would probably require use of a whole-Agency TPP calculation instead of separate TPP measures for each business unit.
- Agency TPP would require quantitative understanding of the correlations among TS and PS risks, which is beyond BPA's current capabilities.
- Equity issues would need to be resolved; for example:
 - If Agency TPP is too low, which B.U. would need to raise rates?
 - If one B.U. draws down the other's reserves, would there be compensation? How? Separate tracking and "repayment"? If so, how is this better than inter-business unit loans?



3a. Keep Power and Transmission reserves separate with explicit inter-business unit loans

- This idea has been mentioned many times, but detailed possibilities have never been fleshed out.
- One example: TS might agree to “lend” \$X million of reserves to PS for the period of 2012-2015 (full payback required by the end of the 2014-2015 rate period).
- Explicit loans might make tracking easier and clearer, make equity more certain to be achieved.
- The meaning of having one sub-organization within BPA “owe” another one has not been clarified.



3b. Keep Power and Transmission reserves separate with implicit inter-business unit loans

- One possibility:
- First, quantify any planned TS uses of reserves:
 - Ensure TS TPP is $\geq 95\%$.
 - Funding for capital projects?
 - Reduce potential TS rate increase?
- Forecast or calculate the amount of TS reserves for risk remaining after satisfying the TS uses, and allow some or all of this remainder to be relied upon to support PS TPP. This would not mean PS would plan to use (spend) those reserves.
- This would reduce the level of PNRR in PS rates needed for PS TPP.



3b. One Possibility, cont'd

- All TS reserves would still be considered to be TS reserves when calculating interest credit for TS.
- If PS actually needed to use (spend) the TS reserves, PS would need to restore them. BPA would track all such uses and ensure that TS would be made whole. For example, TS would not lose interest credit.
- Formal inter-business line loan arrangements would not be made; BPA would carefully, transparently track reserves to ensure that TS and TS constituents would suffer no financial harm.



How Might This Actually Work?

- We need to distinguish the planning perspective from the operational perspective, i.e., separate issues about how BPA might allow PS to *rely* on TS reserves in the rate case from issues about what BPA would do if BPA actually needed to *expend* those reserves to pay PS bills.
- There are precedents in both perspectives.



Precedent: Planning (Rate Case)

- In the 2007 Power rate case, the Administrator allowed Power to rely on the temporary availability of reserves attributed to Transmission for TPP purposes; for FY 2007 only.
- Power did not actually draw on Transmission reserves.
- No follow-up actions were needed.
- In this possibility, the Administrator could again decide for one rate period that this cross-business unit TPP support is a prudent idea for BPA.



Precedent: Operations (during the Rate Period)

- At the end of FY 2002, the second of two execrable secondary marketing years for Power, reserves available for risk attributed to Power equaled about -\$9M. In effect, Power had drawn on Transmission reserves.
- Interest was credited to Transmission as if all of the TS reserves still existed.
- Power was “credited” with negative interest.
- Power reserves recovered later.
- No other action was needed.



Precedent: Operations, cont'd

- In this possibility, if PS actually used TS reserves, TS would continue to earn interest on all the reserves attributed to TS, even if some have been temporarily used by PS.
- PS would set rates for the next rate period using only reserves attributed to PS, plus any amount of the Treasury note made available to it.
 - The reserves attributed to PS would be negative in this hypothetical situation.
 - This would result in a PS TPP below 95%, and PS would need to raise rates to meet the TPP standard.
 - This would generate additional reserves, replenishing the amounts of TS reserves previously used by PS.

