



Power Net Revenue Improvement Sounding Board

Other Revenue Enhancements

- Hydro System
- Surplus Marketing
- Reserve Services

March 16, 2004



Other Revenue Enhancements

- Goal: Identify potential Other Revenue Enhancement Opportunities that can contribute to the target of \$100 M of cost reductions and revenue enhancements in FY04-05.
- Outcome:
 - Hydro System Revenue Enhancements -several operational areas are under review for enhancement beyond that already counted. None yet appear solid enough to “count” toward the \$100 million goal.
 - Surplus Marketing Revenue Enhancements - Power Business Line (PBL) is working to identify additional marketing opportunities. However, Most of these additional marketing opportunities are unlikely to reap significant benefits until after FY2005
 - Reserve Services Revenue Enhancements - PBL has designed a strategic marketing program for reserve services, which will not realize revenue enhancements until after FY 2005.



Other Revenue Enhancements - Hydro System

Greg Delwiche
Vice President for Generation Supply



Hydro System Revenue Enhancements

- Alteration of Biological Opinion (BiOp) Summer Spill Operation:
 - Negotiations ongoing.
- Alteration of 1 percent Peak Efficiency Restrictions:
 - Agreement with stakeholders to delay start of 1 percent peak efficiency at McNary until late-June.
- Additional FCRPS operational flexibility:
 - Beyond what was assumed in the rate case, BPA continues to work with our Federal partners to enhance operational flexibility without impacting non-power requirements (example: Libby last Fall).
- Nontreaty Storage Renegotiation:
 - Current nontreaty storage agreement with Canada expires this Spring, however, BPA has begun negotiating a new agreement.
 - Likely no impact in FY04.



Other Revenue Enhancements - Surplus Marketing

Steve Oliver

Vice President for Bulk Marketing and Transmission
Services



Surplus Marketing Revenue Enhancements

BPA's standard practice is to optimize sales of energy and capacity available from the FCRPS. This includes maximizing the availability of energy on heavy load hours by conserving water during light load periods, and making efficient use of approximately 1,000 MW of intertie capacity for sales to California utilities and the CAISO. Potential revenue enhancements include:

- Reserve Marketing:
 - BPA is actively marketing supplemental reserves to entities outside of BPA Control Area with a goal of selling up to 200 MW of reserve capacity on an annual basis (\$1.5-\$1.9 million/year).
- Peak Capacity Sales:
 - BPA has recently become more active in the market for peaking capacity and will continue this trend if market liquidity and pricing remain favorable. (possibly \$3-6 M total)



Surplus Marketing Revenue Enhancements

(continued)

- Wind Integration Services:
 - BPA has developed two new services that will integrate wind into the BPA Control Area on behalf of other regional utilities. The Agency has targeted up to 450 MW (nameplate) of service through 2011. New projects will likely not come on line until 2005. (Probably less than \$1 M total FY04-05)
- Green Tag Sales:
 - BPA is actively exploring opportunities to increase sales of green tags to other states in the WECC with renewable portfolio standards, including California. We have placed less emphasis on moving physical wind into California because of the opportunity costs of utilizing valuable intertie capacity. (Probably less than \$1 M total FY04-05)
- California Power Market
 - With the credit and overall market situation beginning to stabilize in California, BPA has begun reviewing proposals from the state's IOUs for seasonal exchanges and other capacity products. At this point, we have not identified transactions that fit well with our system conditions or flexibility, but we remain open to new transactions.



Other Revenue Enhancements

Ancillary & Reserve Services

Presented by,
Ancillary & Reserve Service Team Leads:
Lynn Aspaas & Sarah Bermejo



Ancillary & Reserve Services Agenda

- GOAL:
 - Identify potential Revenue Enhancement Opportunities & Risks to contribute to BPA's \$100 million target for FY04 and FY05.
- OUTCOME:
 - OPPORTUNITY:
 - Through strategic market positioning, PBL's surplus Reserves marketing efforts may offset a fraction of the Ancillary Service revenue shortfall.
 - PBL's marketing "Your Reserves Supplier of Choice!" campaign.
 - We will not realize revenue enhancements for FY'04-05 period.
 - RISK:
 - \$8.7 million annual Ancillary Service revenue shortfall from the SN CRAC Rate case forecast for FY'04-'05 totaling \$17.4 million.
 - The Pro Forma tariff allows customers the choice for procuring Ancillary Services, namely Operating Reserves, via:
 - Purchase from a transmission provider
 - Self-supply from their own resource
 - Purchase from a third-party supplier
 - BPA lost roughly 22 percent from forecasted Operating Reserves supply to customer's choice to either self-supply or third-party supply.



Reserve Services Marketing Strategy

- ✓ Maximize revenues by targeting entities with Ancillary Service obligations **outside** the BPAT control area.

Ancillary Services

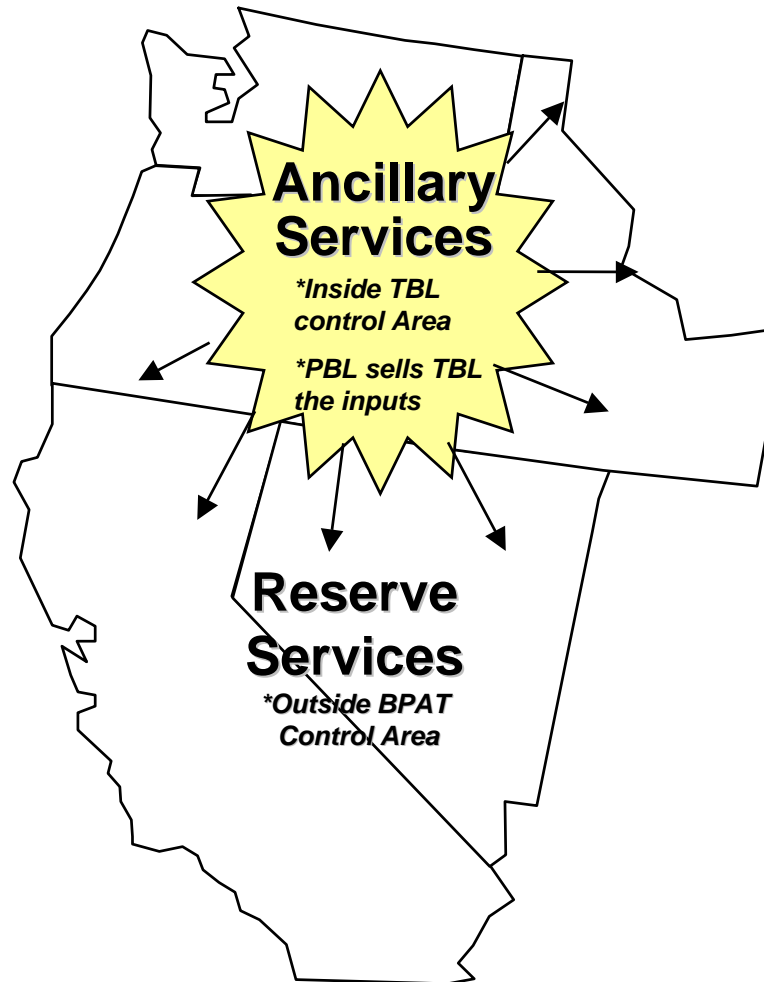
Governed by FERC Order 888

Sold inside BPAT's Control Area by TBL

Cost based price developed and discounted by TBL

Required by FERC to be posted tariff on OASIS

Sold under the ACS rate schedule



Reserve Services

Not governed by FERC Order 888

Sold outside BPAT's Control Area by PBL only

Market based rates developed and discounted by PBL

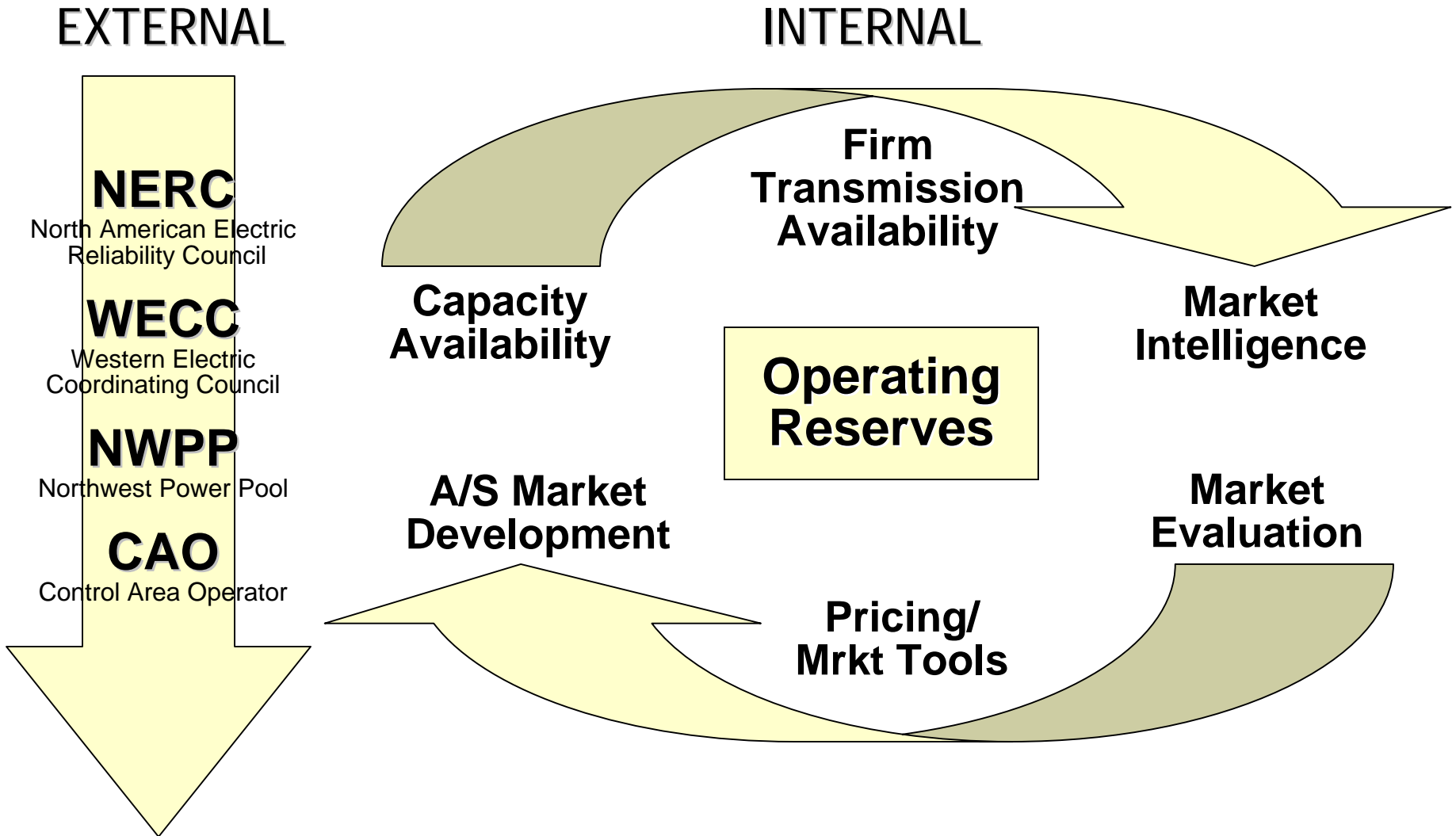
Not FERC required to be posted on the OASIS

Sold under BPA's FPS Rate Schedule



Marketing Process Diagram

Core Business Unit coordination ensures our success





Market Landscape

- SCOPE: Without limits there are no boundaries:
 - Our marketing effort is limited to surplus reserve capacity sales marketed to entities with reserve obligations outside of the BPAT control area.
- MISSION: Enhancing the development of markets:
 - Position BPA to enhance the development of Ancillary Service Markets.
- TARGET: Setting and achieving revenue targets:
 - FY 2004 = \$1.9 million.
 - FY 2005 = \$1.9 million.



Marketing Mix

PRODUCT: BPA tailors products to complement utility-specific needs!

- OPERATING RESERVES: include both capacity (responsive to system disturbances) and energy (made available by BPA per contingency).
 - Spinning Reserves: capacity responsive to changes in system frequency. Associated energy is made available upon notice of a system contingency.
 - Supplemental Reserves: capacity with associated energy made available within 10 minutes notice of a system contingency.
- OUTAGE RESERVES:
 - Forced Outage Reserves: back-up replacement energy in the event of an unplanned outage, extended beyond the life of operating reserves, within defined scheduling timelines.
 - Planned Outage Reserves: back-up replacement energy in the event of a planned outage.



Marketing Mix (continued)

- PRICE: A Competitive price you can't beat!
 - Reserve service prices are all negotiable! Our prices are developed and discounted within PBL and are consistent with market.
- PLACE: We deliver to your delivery place of choice!
 - Customers may chose to have BPA make reserve service available at the busbar or request BPA to arrange for delivery.
- PROMOTION: Your Reserves Supplier of choice!
 - Visit our website to learn how you can realize benefits from purchasing BPA's Reserves & Ancillary products and services at:

www.bpa.gov/power/reserves



Ancillary Services

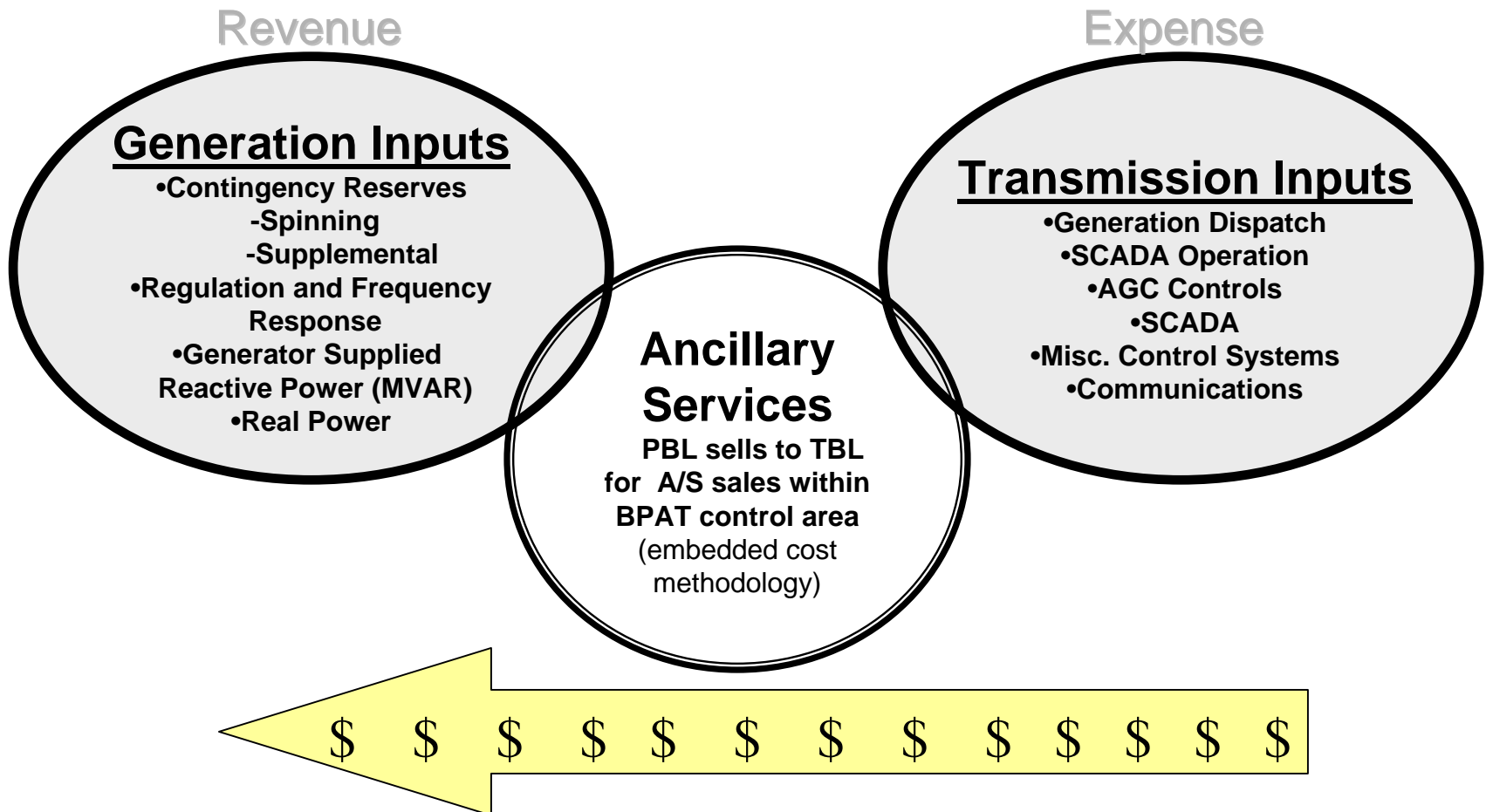
CUSTOMER *CHOICE* = REVENUE *RISK*



PBL/TBL Billing Relationship

PBL revenues translate to TBL expenses

For compensation purposes, PBL and TBL established generation input rates as part of the PBL 2002 Power Rate Case.





Conclusion - Reserves & Ancillary Services

- OUTCOME:
 - OPPORTUNITY:
 - Describe how PBL's surplus reserves and ancillary service marketing efforts will offset a fraction of the revenue shortfall.
 - RISK:
 - \$8.7 million revenue shortfall from the SN CRAC Rate case assumptions for FY'04-'05 totaling \$17.4 million.
 - PBL generation input sales to the Transmission Business Line (TBL) for the provision of Ancillary Services are lost due to customer choice.



Appendix - Page 1 (Q & A)

- What are Ancillary Services (A/S) and why are they needed?
 - FERC defines as “those services that support the transmission of electric power from seller (TBL) to transmission contract holder (Customer) to ensure system reliability.”
- Where can I go to obtain information on TBL’s Transmission & Ancillary Service Rate Schedules?
 - Go to: www.transmission.bpa.gov/Business/Rates_and_Tariff/
 - Then, click on “Current Rate Schedules” for more information.
- Does FERC distinguish among the A/S needed?
 - Yes. There are two (2) categories: one a transmission provider must provide and another it must offer.
- What A/S must a transmission provider provide?
 - Scheduling, System Control and Dispatch Service.
 - Reactive Supply and Voltage Control from generation sources.
- What A/S must a transmission provider offer (customer choice)?
 - Contingency Reserves (Operating Reserves): Spinning, Supplemental.
 - Regulation and Frequency Response Service (AGC).
 - Energy Imbalance.



Appendix - Page 2 (Q & A)

- What choices do customers have to procure Ancillary Services namely Operating Reserves?
 - 1. Purchase from transmission provider (= PBL Revenue)
 - 2. Purchase from third party supplier
 - 3. Self-supply from their own resource
- When customers exercise choice what is the impact to PBL's revenue?
 - PBL loses revenue due to less generation inputs sold to TBL in support of A/S sales within the BPAT control area.
- What opportunities does PBL have to recover revenue lost in the BPAT control area to choice?
 - None. PBL, as a merchant affiliate, is strictly prohibited by FERC from competing with TBL for reserve obligations in the BPAT control area.
- Can TBL offer discriminatory Ancillary Service pricing?
 - No. FERC requires all Ancillary Service rates to be offered in a non-discriminatory fashion to all customers simultaneously via the OASIS.
- What are FERC's governing rules for Ancillary Services? Why?
 - Merchant Affiliate (PBL) may not self-supply nor directly market A/S to meet obligations imposed on the BPAT control area. This prevents affiliate abuse.



Appendix - Page 3 (Definitions)

- Scheduling, System Control and Dispatch Service:
 - Pre-scheduling and other associated scheduling for real-time and after-the-fact confirmation and accounting.
 - Provides verification of individual schedules and associated losses.
- Reactive Power Provided from Generation Resources:
 - Supplies “reactive power” through generation resources.
- Operating Reserves - Spinning Reserve:
 - Capacity responsive to changes in system frequency. Associated energy is made available upon notice of a system contingency for up to 60 minutes per contingency. BPA determines the spinning reserve requirement consistent with applicable NERC, WECC and NWPP standards. The billing factor is determined consistent with applicable WECC and NWPP standards to be the sum of:
 - 2.5 percent of actual hydro and wind + 3.5 percent of actual thermal generation serving load responsibility and
 - 3.5 percent of non-hydro electric generation dedicated to the Transmission customer’s firm load responsibility.



Appendix - Page 4 (Definitions)

- Operating Reserves -Supplemental Reserve:
 - Capacity with associated energy made available within 10 minutes notice of a system contingency for up to 60 minutes per contingency. BPA determines the supplemental reserve requirement consistent with applicable NERC, WECC and NWPP standards. The billing factor is determined consistent with applicable WECC and NWPP standards to be the sum of:
 - 2.5 percent of actual hydro and wind + 3.5 percent of actual thermal generation serving load responsibility and
 - 3.5 percent of non-hydro electric generation dedicated to the Transmission customer's firm load responsibility.
- Regulation and Frequency Response Service (AGC):
 - Uses regulating reserve and AGC system to provide instantaneous regulation of firm power supply to customers actual real-time load within the hour.
- Energy Imbalance:
 - Provides for the difference between hourly scheduled load and hourly actual load by the customer. This services acts to "firm up" a customer's hourly load schedule.