



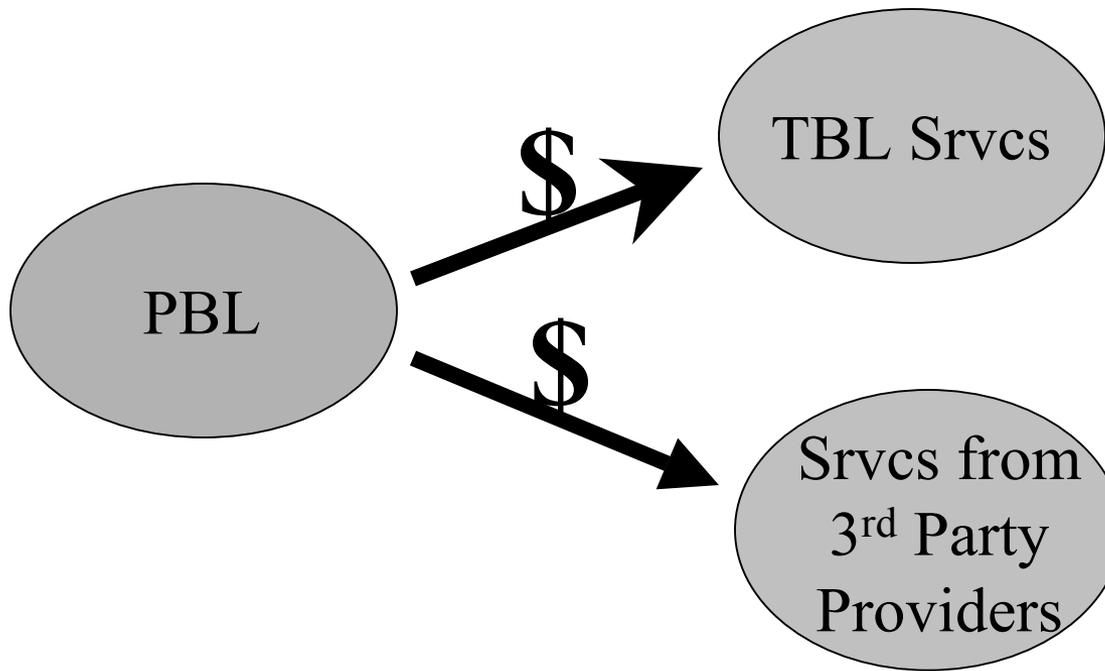
Bonneville Power Administration's Power Function Review Transmission Acquisition Program

February 1, 2005



Power Function Review

Transmission Acquisition Program





Transmission Acquisition Program

| Acronym | Definition |
|-------------------------------------|---|
| ❖ PBL | ❖ Power Business Line |
| ❖ TBL | ❖ Transmission Business Line |
| ❖ SOP MOA | ❖ Statement of Principles Memorandum of Agreement |
| ❖ OATT | ❖ Open Access Transmission Tariff |
| ❖ PTP | ❖ Point to Point Transmission Service |
| ❖ IS | ❖ Intertie South Transmission Service |
| ❖ GF | ❖ Grandfathered Transmission (pre July 12,1996) |
| ❖ BOR | ❖ Bureau of Reclamation |
| ❖ SCD | ❖ Scheduling, System Control & Dispatch Service |
| ❖ GSR | ❖ Generation Supplied Reactive Service |
| ❖ MGCD | ❖ Monthly Grandfathered Contract Demand |
| ❖ GTA | ❖ General Transfer Agreement |
| ❖ 3 rd Party Provider | ❖ Transmission Provider other than TBL |



Power Function Review Transmission Acquisition Support of PBL Balanced Scorecard

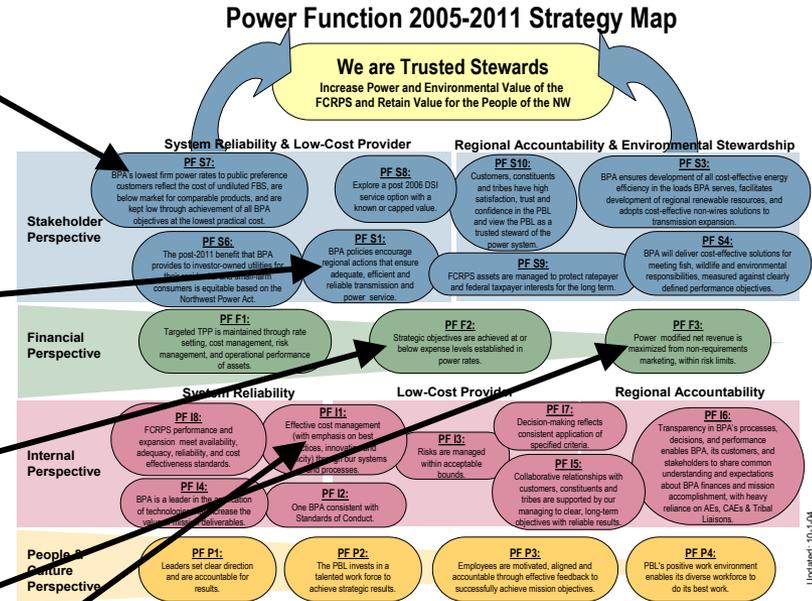
PF S7: BPA's lowest firm power rates to public preference customers reflect the cost of undiluted FBS, are below market for comparable products, and are kept low through achievement of all BPA objectives at the lowest practical cost.

PF S1: BPA policies encourage regional actions that ensure adequate, efficient and reliable transmission and power service.

PF F2: Strategic objectives are achieved at or below expense levels established in power rates.

PF F3: Power modified net revenue is maximized for non-requirements marketing, within risk limits.

PF I1: Effective cost management (with emphasis on best practices, innovation and simplicity) through our systems and processes.

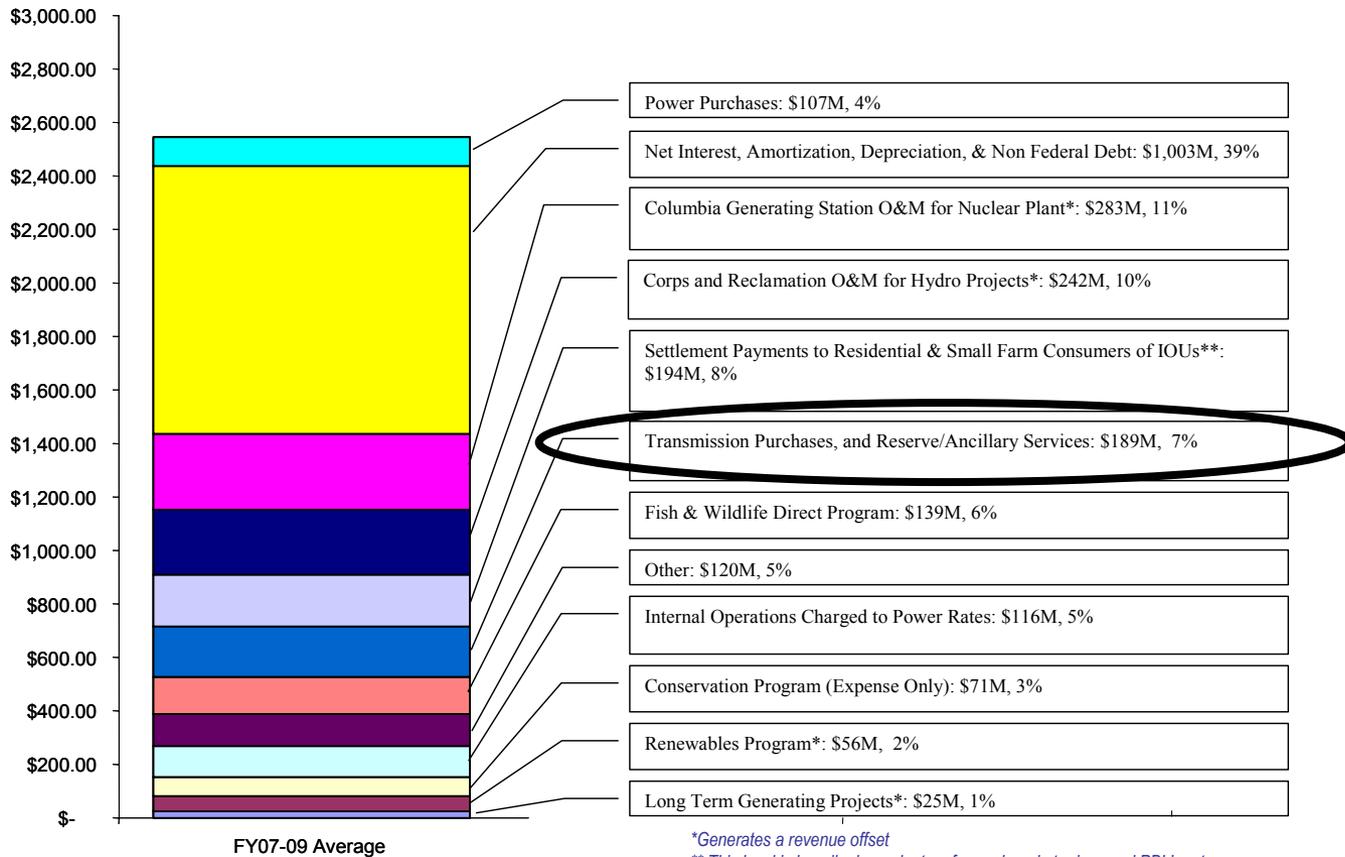


Updated: 10-1-04



Power Rate Structure

- The Transmission Acquisition program costs are included in the revenue requirement of the PBL rate structure. However, the budget for purchasing transmission for selling secondary energy will vary according to the secondary energy volume each year.



*Generates a revenue offset
 ** This level is heavily dependant on forward market prices and PBL's rate
 Percentages may not add to 100% due to rounding



Transmission Acquisition Program

- ❖ The Transmission Acquisition Program represents costs associated with:
 - ❖ Services necessary to deliver energy from resources to markets and loads: transmission, ancillary services, real power losses.
 - ❖ Generation integration costs associated with the U.S. Army Corps of Engineers and Bureau of Reclamation transmission facilities
 - ❖ Metering and communication requirements.



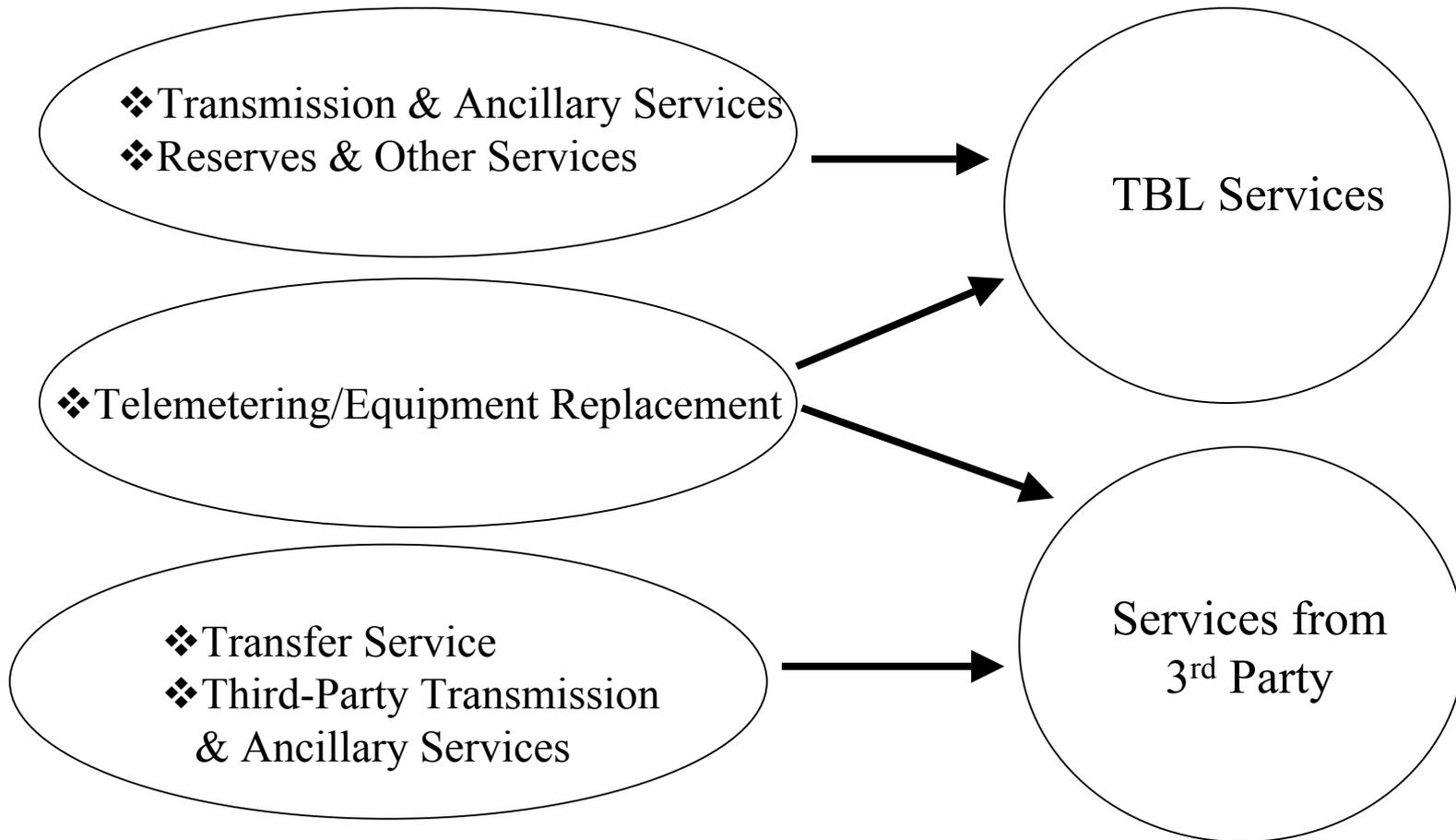
Transmission Acquisition Program

- ❖ The program's primary goals are to:
 - ❖ Be good stewards of our transmission expenses by determining the least-cost mixture of long-term and short-term transmission products that can meet the needs of PBL's secondary energy marketing strategy.
 - ❖ Meet the Agency's transfer service obligation, while attempting to meet specific customer desires by having open communications between our customers regarding plans of services, metering needs, and long-term forecasts.



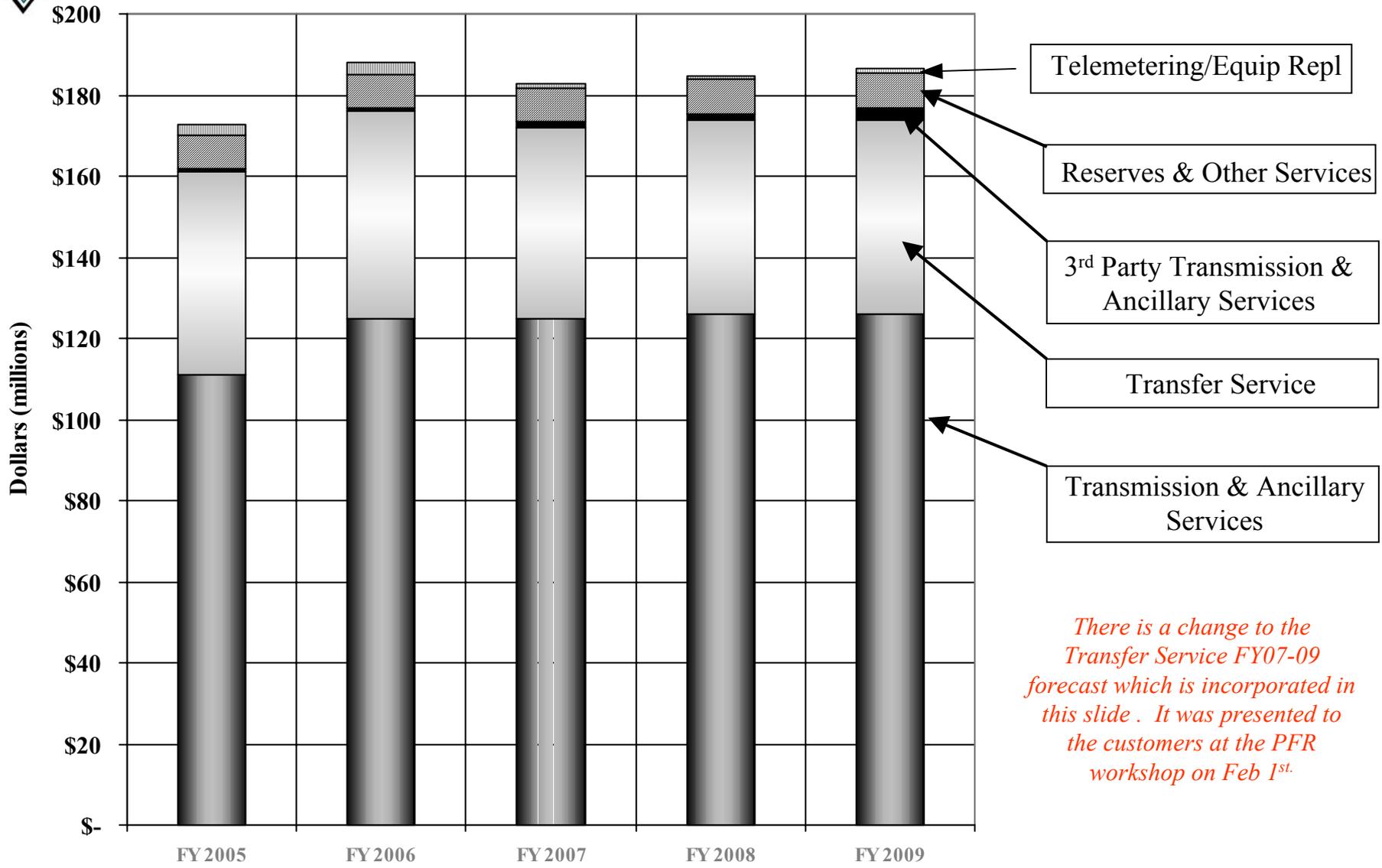
Transmission Acquisition Program

❖ The program is comprised of 5 distinct components





Transmission Acquisition Program

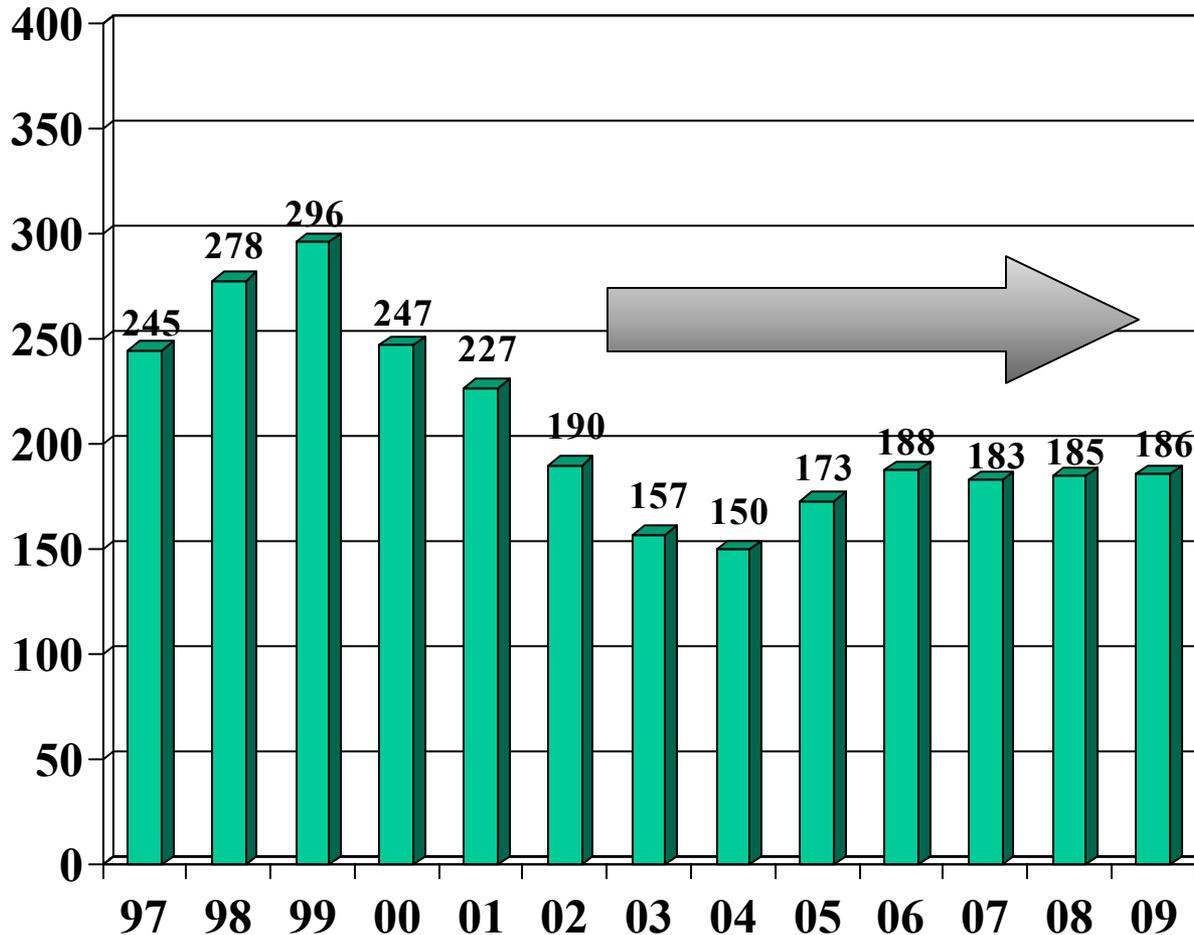


There is a change to the Transfer Service FY07-09 forecast which is incorporated in this slide. It was presented to the customers at the PFR workshop on Feb 1st.



Transmission Acquisition Program

Million \$



Major Policy Shift

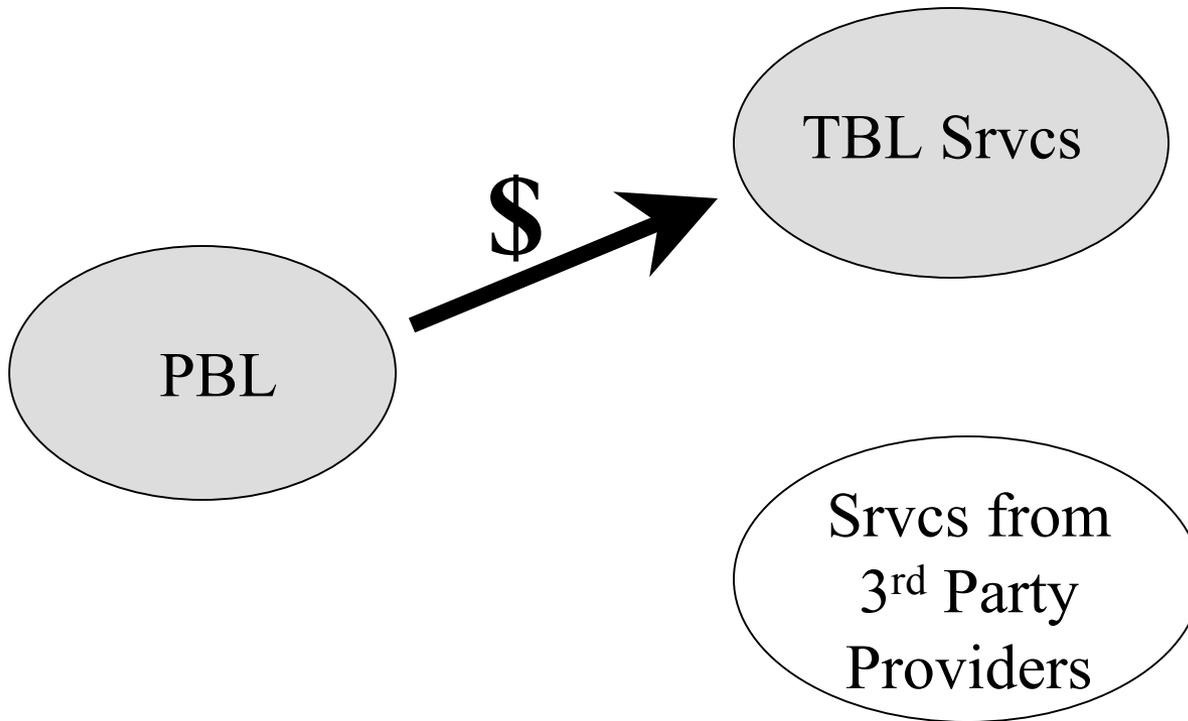
On 10/1/02 BPA split into power and transmission services and preference customers acquired and paid for their own transmission service directly with TBL.

There is a change to the Transfer Service FY07-09 forecast which is incorporated in this slide. It was presented to the customers at the PFR workshop on Feb 1st.



Transmission Acquisition Program

Transmission and Ancillary Services Component

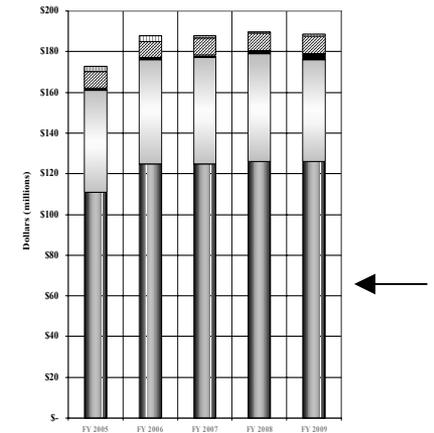




Transmission Acquisition Program

Transmission and Ancillary Services Component

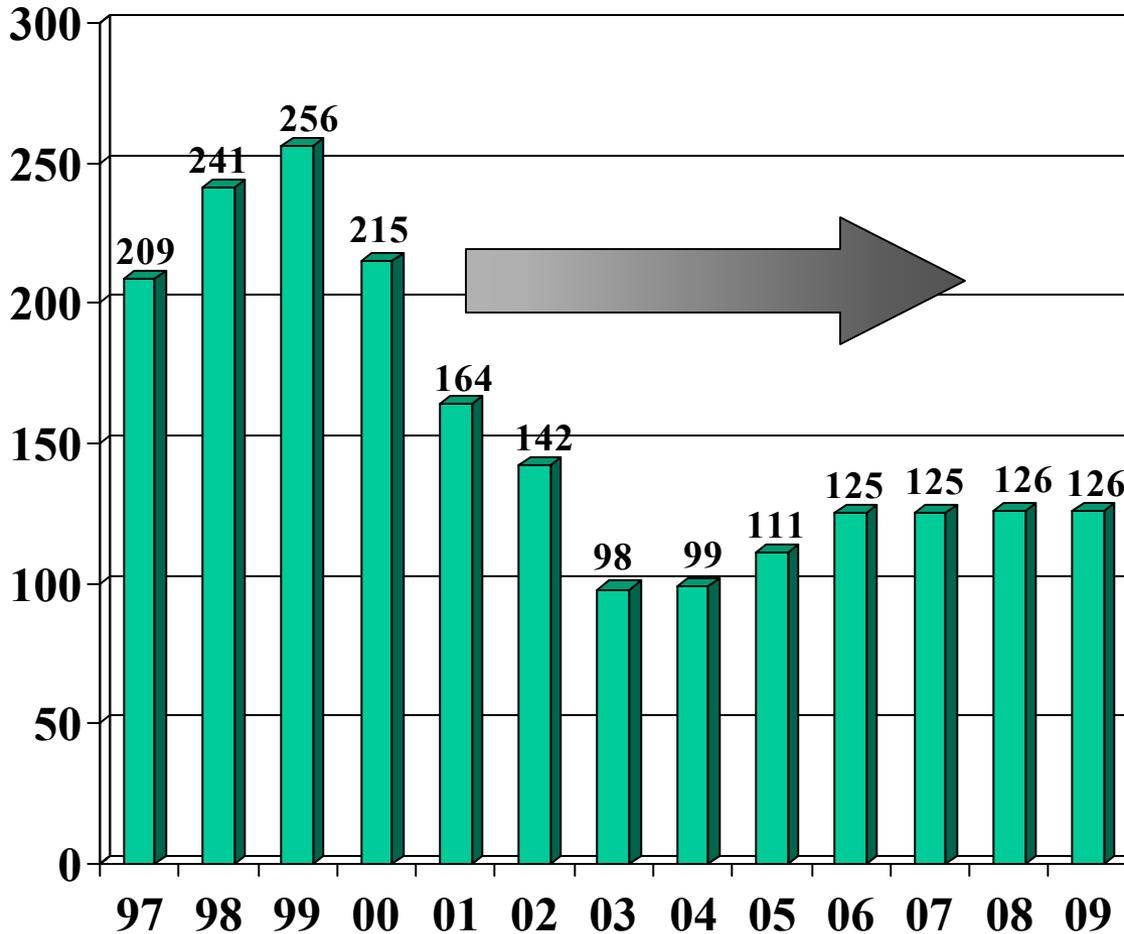
- ❖ The Transmission and Ancillary Service Component represents costs associated with payments to BPA's Transmission Business Line for transmission and ancillary services associated with secondary energy sales.
- ❖ The goal of the BPA PBL transmission strategy is to determine the least-cost mixture of long-term and short-term transmission products that can meet the needs of PBL's secondary energy marketing strategy.





Transmission Acquisition Program

Million \$



Major Drivers of Change

Prior to 10/1/01 PBL held transmission contracts with TBL on behalf of the majority of preference customers.

On 10/1/01 BPA split into power and transmission services and preference customers acquired and paid for their own transmission service directly with TBL.



Transmission Acquisition Program

Transmission and Ancillary Services Component

- ❖ Reasons for changes in expense levels over time
 - ❖ Unbundling of power and transmission
 - ❖ Shape and level of secondary energy.
 - ❖ Transmission rate increases and changes in rate design.
 - ❖ Capacity changes in long-term power sale agreements



Transmission Acquisition Program

Transmission and Ancillary Services Component

❖ Risks for FY07-09

- ❖ Secondary energy levels and shape:
Based on 3000 secondary energy variations the average cost for the FY07-FY09 period ranged from \$90 million to \$165 million.
- ❖ Changes in transmission rates (FY08 TBL Rate Case)
- ❖ Congestion costs associated with transmission constraints due to line outages, generation patterns, and level of transmission usage.
- ❖ Limited access to transmission – being forced to more expensive transmission products.
- ❖ Implementation of Grid West
- ❖ Changes in scheduling structure



Transmission Acquisition Program

Transmission and Ancillary Services Component

❖ Managing Costs

- ❖ Maintain staff expertise to manage transmission portfolio—efficient utilization of existing transmission contracts and incremental transmission purchases.
- ❖ Coordinate with trading floor and operations on expected secondary energy (including location of generation and sale).
- ❖ Participate in TBL Rate Case Proceedings.
- ❖ Actively participate in TBL business practice forums to sustain or enhance transmission portfolio.
- ❖ Remarketing of unused transmission and purchasing of remarketed transmission in the secondary transmission market.



Methodology for the Transmission and Ancillary Services

Forecast FY07-FY09



Methodology for the Transmission and Ancillary Services Forecast

- ❖ The Transmission and Ancillary Service Forecast estimates the monthly and annual expense PBL will pay to TBL for transmission purchases in support of secondary energy sales.
- ❖ The annual expense is based upon the average of the transmission and ancillary service expenses for 3000 secondary energy variations. The 3000 secondary energy variations reflect probabilistic hydro, load and nuclear variability.
- ❖ Secondary energy includes:
 - Pre July 1996 Contracts (aka Grandfathered Contracts)
 - Committed sales made after July 1996
 - ❖ Yearly
 - ❖ Monthly
 - ❖ Daily
 - Expected secondary energy sales



Methodology for the Transmission and Ancillary Services Forecast

BPA Transmission and Ancillary Service Rate Schedules used in the Forecast

❖ Transmission

- **Point to Point Transmission (PTP)**
 - ❖ Long-term Firm (monthly rate),
 - ❖ Short-term Firm (day 1 through 5 rate)
 - ❖ Hourly Non-Firm (hourly rate)
- **Intertie South Transmission (IS)**
 - ❖ Long-term Firm (monthly rate)

❖ Ancillary Services

- **Scheduling, System Control, and Dispatch Service Rate (SCD) – applied to reserved PTP and IS**
 - ❖ Long-term Firm (monthly rate),
 - ❖ Short-term Firm (Day 1 through 5 rate)
 - ❖ Hourly Non-Firm (hourly rate)
- **Reactive Supply and Voltage Control From Generation Sources Service (GSR) – applied to reserved PTP and IS**
 - ❖ Long-term Firm (monthly rate),
 - ❖ Short-term Firm (Day 1 through 5 rate)
 - ❖ Hourly Non-Firm (hourly rate)
- **Operating Reserves – Spinning Reserve Service**
 - ❖ applied to reserve requirement which is based on energy delivered under reserved transmission
 - ❖ Energy Rate (\$/kwh)
- **Operating Reserves – Supplemental Reserve Service**
 - ❖ applied to reserve requirement which is based on energy delivered under reserved transmission
 - ❖ Energy Rate (\$/kwh)



Methodology for the Transmission and Ancillary Services Forecast

The Forecast is split into three sections

Contracts scheduled on Grandfathered Transmission

- ❖ Grandfathered contracts (pre July 12, 1996 bundled contracts) that PBL has retained grandfathered transmission rights for under the inter-business line Statement of Principles (SOP). The SOP establishes the business relationship between PBL and TBL for contracts entered into prior to July 12, 1996 that extend beyond July 12, 1996.
- ❖ Grandfathered Transmission is billed on monthly demand rather than the maximum demand during the contract term.
- ❖ Grandfathered Transmission cannot be used for any schedules other than those going to the the entity listed in the Grandfathered contract and cannot be resold or remarketed.

Contracts scheduled on Open Access Tariff Transmission (OATT)

- ❖ All post July 12, 1996 delivered secondary energy contracts and some pre-July 12, 1996 contracts that PBL has converted to OATT service and are no longer included under the inter-business line Statement of Principles (SOP).
- ❖ OATT service has a set demand and does not vary over the duration of the transmission contract.
- ❖ OATT Transmission can be redirected to available points of delivery and can be resold and remarketed.

Other Expenses

- ❖ Ancillary service expenses for pre-subscription contracts that included operating reserves or load regulation as part of the power sale contract.
- ❖ BOR revenue credited to TBL



Methodology for the Transmission and Ancillary Services Forecast

Illustration of forecasting spreadsheet components

| Tx Type | | (\$000) |
|--|--|-------------------------|
| Grandfathered Transmission | Grandfathered Transmission | |
| | PBL GF Netwk (PtP Rate) | 19,250 |
| | PBL GF SCD (PtP Rate) | 3,214 |
| | PBL GF GSR (PtP Rate) | 1,077 |
| | PBL GF Op Reserves (PtP Rate) | 2,227 |
| | PBL GF Intertie (IS Rate) | 1,704 |
| | PBL GF SCD (IS Rate) | 286 |
| | PBL GF GSR (IS Rate) | 96 |
| | Total Grandfathered (MOA 96060) | \$27,853 |
| | Open Access Tariff Transmission | OATT Transmisson |
| Intertie N-S (IS Rate) | | 17,787 |
| Intertie SCD (IS Rate) | | 2,982 |
| Intertie GSR (IS Rate) | | 999 |
| Intertie S-N (IS Rate) | | 2,906 |
| Intertie SCD (IS Rate) | | 487 |
| Intertie GSR (IS Rate) | | 163 |
| PBL Network (PTP Rate) | | 46,560 |
| PBL Network SCD (PtP Rate) | | 7,898 |
| PBL Network GSR (PtP Rate) | | 2,561 |
| PBL Network Op Reserves (PtP Rate) | 5,433 | |
| Total OATT Transmission (95363) | \$87,776 | |
| Other Expense | Other Expenses | |
| | BOR O&M | 1,417 |
| | Requirements (Regulation) | 198 |
| | Requirements (Reserves) | 422 |
| | Total Other | 2,037 |
| TBL TRANS & ANCLLRY SRVCS | | \$117,666 |
| TBL TRANS & ANCLLRY SRVCS | | \$118,000 |



Methodology for the Transmission and Ancillary Services Forecast

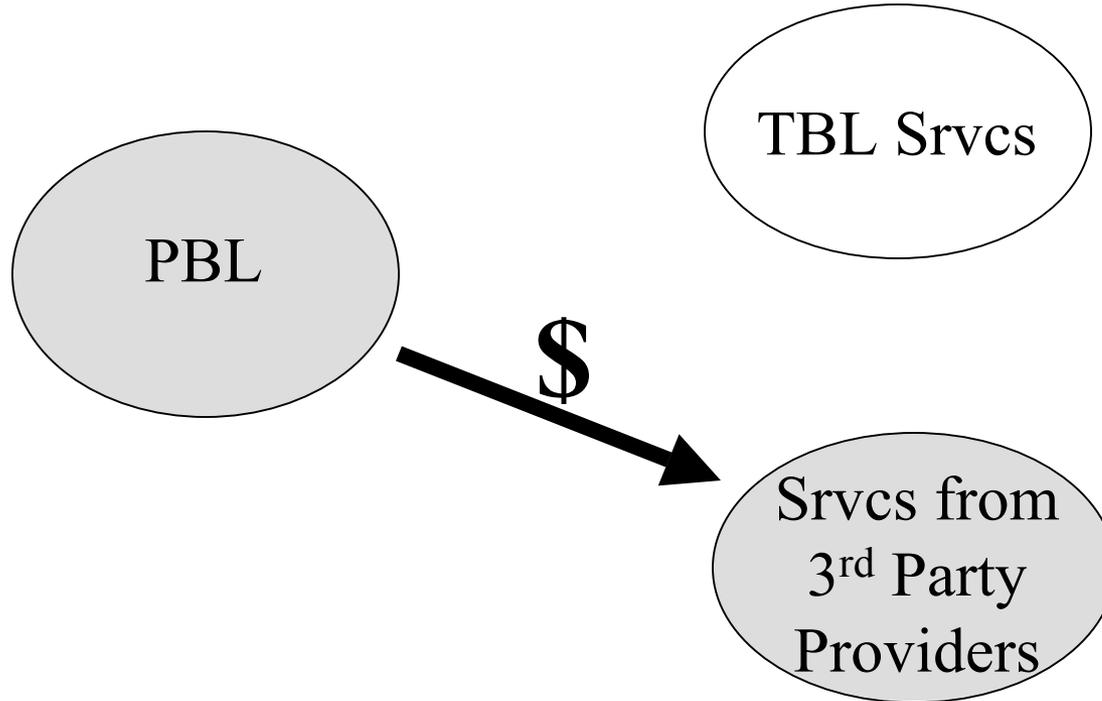
Standard expense calculation based on the BPA TBL rate schedules

$$\begin{aligned} & \text{Transmission Demand} * \text{Applicable PTP (or IS) Rate} \\ & \quad + \\ & \text{Transmission Demand} * \text{Applicable SCD Rate} \\ & \quad + \\ & \text{Transmission Demand} * \text{Applicable GSR Rate} \\ & \quad + \\ & \text{Energy Delivered} * \text{Spinning Reserve Requirement (\%)} * \text{Spinning} \\ & \quad \text{Reserve Rate} \\ & \quad + \\ & \text{Energy Delivered} * \text{Supplemental Reserve Requirement (\%)} * \\ & \quad \text{Supplemental Reserve Rate} \end{aligned}$$



Transmission Acquisition Program

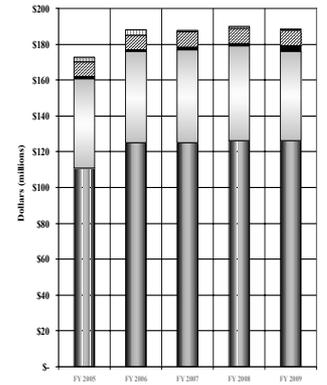
Transfer Service Component





Transmission Acquisition Program

Transfer Service Component



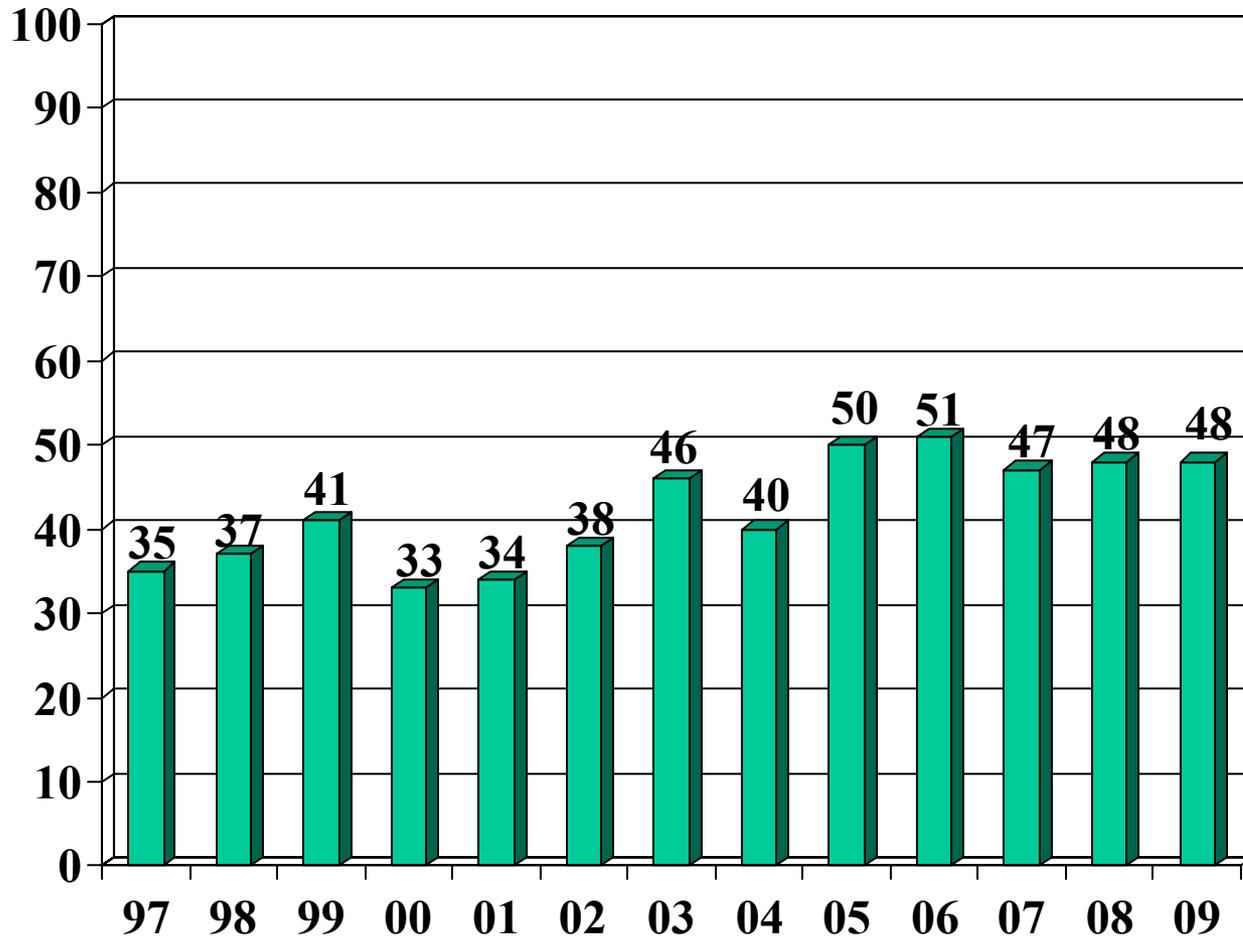
- ❖ Transfer Service Component represents the costs associated with BPA providing third party transmission to aid in the delivery of federal power to preference customers in the Pacific Northwest.
- ❖ Currently, BPA has 79 preference customers that receive all or part of their federal power deliveries using this mechanism.
- ❖ BPA contracts for Transfer Service with all six investor owned utilities in the region and several public utilities and cooperatives.
- ❖ Types of arrangements vary from simple use of facilities agreements and others are complex combinations of agreements (i.e., General Transfer Agreements, Exchange Agreements and Open Access Tariff Transmission).



Transmission Acquisition Program

Transfer Service Component

Million \$



Reasons for Changes in expense levels

- ❖ OATT Conversions
- ❖ Change in Posted Rates
- ❖ Change in Rate Structure
splitting of rates into
Network and Wholesale
Distribution
- ❖ Load Growth

There is a change to the Transfer Service FY07-09 forecast which is incorporated in this slide. It was presented to the customers at the PFR workshop on Feb 1st.



Transmission Acquisition Program

Transfer Service Component

❖ Major Drivers of Change

- ❖ Movement to financial true up of scheduling deviations (energy imbalance under OATT).
- ❖ As contractual agreements expire, they will be replaced with Open Access Transmission Tariff (OATT).

PBL has OATT service, or OATT-like service, with:

- ❖ Puget
- ❖ Idaho
- ❖ PGE (Columbia River PUD)
- ❖ PacifiCorp (Umpqua Indian Utility Cooperative)
- ❖ Tacoma

PBL will move to OATT service prior to FY07 with:

- ❖ NorthWestern Energy (11/2005)
- ❖ Avista (1/06)

- ❖ Some GTA contracts have long-term provisions and terminate only with a 3 to 5 year notice or when all relevant deliveries cease.



Transmission Acquisition Program

Transfer Service Component

❖ Risks

- ❖ Under or over estimated inflation/growth rate assumed in forecast
- ❖ Energy Imbalance – under or over scheduling of loads
- ❖ Costs for system upgrades (over-runs/under-runs)
- ❖ Level of communications between BPA and customers regarding load growth and plans of service



Transmission Acquisition Program

Transfer Service Component

❖ Managing Costs

- ❖ Coordination with BPA Account Executives and transfer customers regarding load growth and plans of service
- ❖ Enhance contract language to clarify rights and responsibilities after encountering unforeseen circumstances, such as for upgrades and redispatch.
- ❖ Manage energy imbalance with improved tools for forecasting schedules, (i.e., more frequent meter readings, enhanced load forecasting tools.)



GTA Budget Forecasting Methodology

To forecast the budgets for our GTAs and existing OATTs we apply the following formula:

- ❖ FY04 actuals and then apply a flat inflation rate of 2%. This 2% should account for load growth and rate escalation
- ❖ Any known upgrade costs
- ❖ No costs/credits associated with energy imbalance are included.

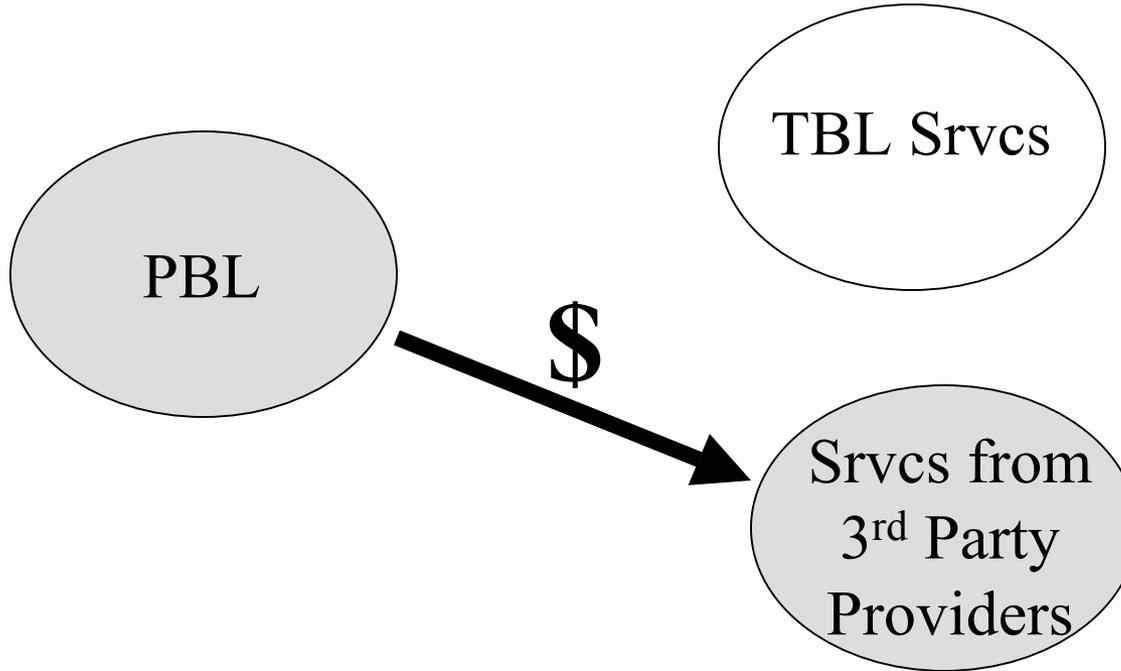
To forecast the budget for anticipated conversions to OATT we used the following assumptions (Northwestern Energy and Avista):

- ❖ FY04 monthly demand
- ❖ Point to Point rate as proxy for Load Ratio Share
- ❖ Ancillary Service rate schedules: 1) scheduling and dispatch, 2) generation supplied reactive and 3) load regulation.
- ❖ For Dist./UFT calculation we applied the BPA GTA delivery Charge rate as a proxy to appropriate number of points of delivery below 34.5 kV



Transmission Acquisition Program

3rd Party Transmission & Ancillary Services Component





Transmission Acquisition Program

3rd Party Transmission & Ancillary Services Component

❖ The 3rd party transmission and ancillary service component represents costs associated

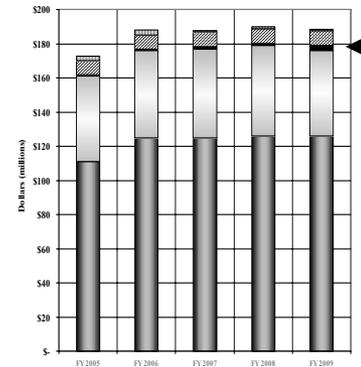
❖ With payments to external BPA entities for transmission, ancillary services, and use of facilities associated with generation located outside the BPA control area (Lost Creek, Greensprings, and Wauna).

❖ Secondary energy sales needing delivery over 3rd party systems.

❖ Expenses associated with rerouting of transfer service due to transmission constraints (3rd party GTA wheeling)

❖ Expenses associated PBL remarketing of transmission under the transmission and ancillary service component for accounting purposes.

If PBL reassigns transmission purchased from TBL then we must credit the difference between the cost of the transmission and the reassigned price (since the purchaser of the transmission will pay TBL the posted transmission rate).

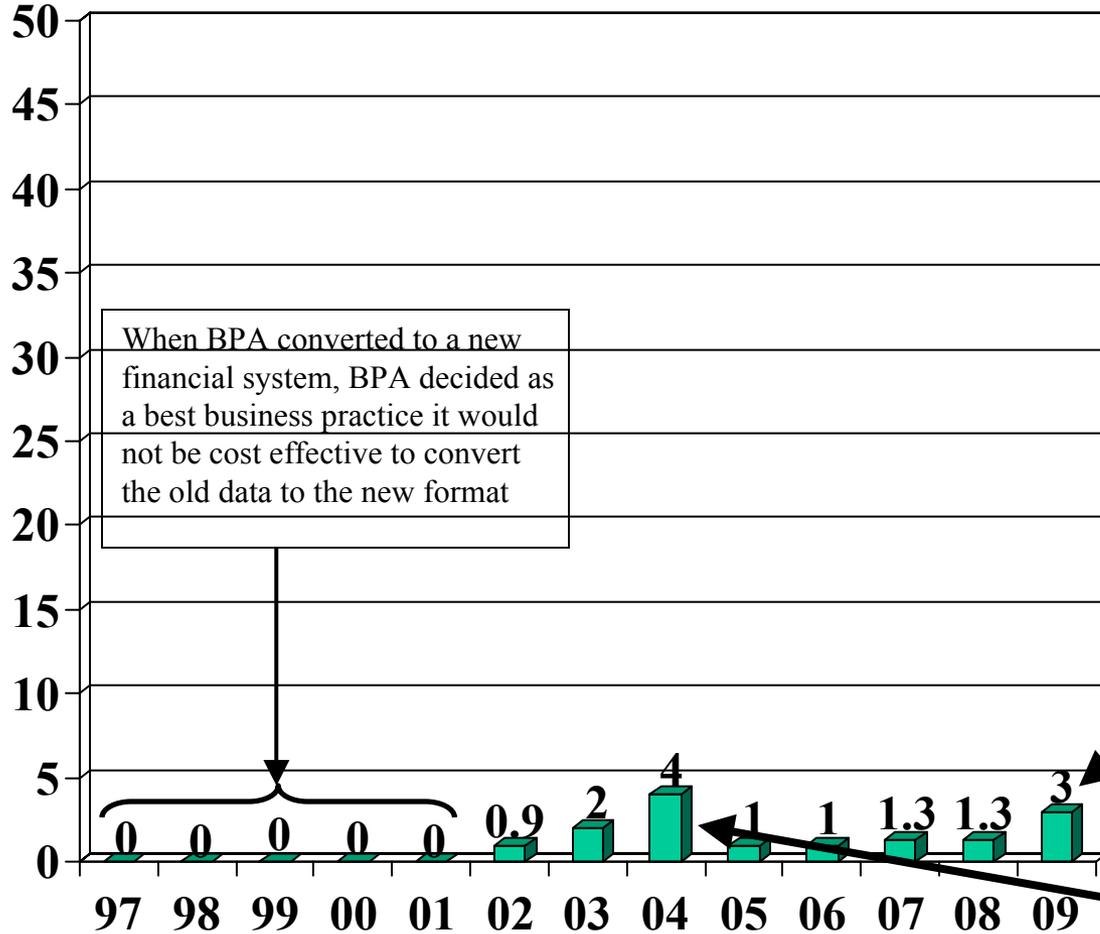




Transmission Acquisition Program

3rd Party Transmission & Ancillary Services Component

Million \$



Major Drivers of Change

Movement to reassignment of transmission rather than remarketing of transmission. The difference being who holds the contract and pays the invoice with the transmission provider.

Lost Creek converting to OATT

Wauna Substation monthly payment, retro back to 1997 & reassignment of 400 MWs of transmission July through September.



Transmission Acquisition Program

3rd Party Transmission & Ancillary Services Component

- ❖ Reasons for changes in expense levels over time
 - ❖ Resource integration (Green Springs Hydro Project added in October 2000, monthly Wauna Substation payments began in June 2004 – was a retro payment back to '97 made in FY04).
 - ❖ Level of transmission reassignments (reassignment results in net reduction in program expenses because there should be a greater reduction in the Transmission and Ancillary component).
 - ❖ Constraints on BPA's transmission system or transfer provider system requiring 3rd party transmission outside of a transfer service contract.
 - ❖ Conversion of Lost Creek Transmission Agreement with PacifiCorp to Open Access Transmission Tariff in FY09.



Transmission Acquisition Program

3rd Party Transmission & Ancillary Services Component

❖ Risks

- ❖ Level of transmission constraints and limitations over transfer service provider systems.
- ❖ Level of generation output, market price for real power losses
- ❖ Level of transmission available from TBL to the California Oregon Border for sales delivered to California.

❖ Managing Costs

- ❖ Maintain staff expertise regarding re-routing alternatives during periods of transmission constraints.



3rd Party Transmission and Ancillary Services Forecast FY07-FY09

How the forecast is derived



3rd Party Transmission and Ancillary Services

Long-term transmission contracts for generation resources

- ❖ Open Access Point-to-Point Contract with Pacificorp for Greensprings (18 MW reservation)
 - Point to Point Rate (\$2025 per MW-Mo)
 - Ancillary Service Rates (included in Pacificorp's PTP rate)
 - Real Power Losses (4.48% at \$50 based on FY04 net generation output)
- ❖ 1978 Transmission Service contract with Pacificorp for Lost Creek through FY08.
 - Fixed Monthly Rate (\$26,023 per month)
- ❖ October 2008 Open Access Point-to-Point Contract with Pacificorp for Lost Creek (56 MW reservation)
 - Point to Point Rate (\$2025 per MW-Mo)
 - Ancillary Service Rates (included in Pacificorp's PTP rate)
 - Real Power Losses (4.48% at \$50 based on FY04 net generation output)



3rd Party Transmission and Ancillary Services (con't)

- ❖ Transfer agreement with Clatskanie for use of Wauna substation for Wauna Co-generation
 - Fixed Monthly Rate(\$18,250 per month)

Other expenses

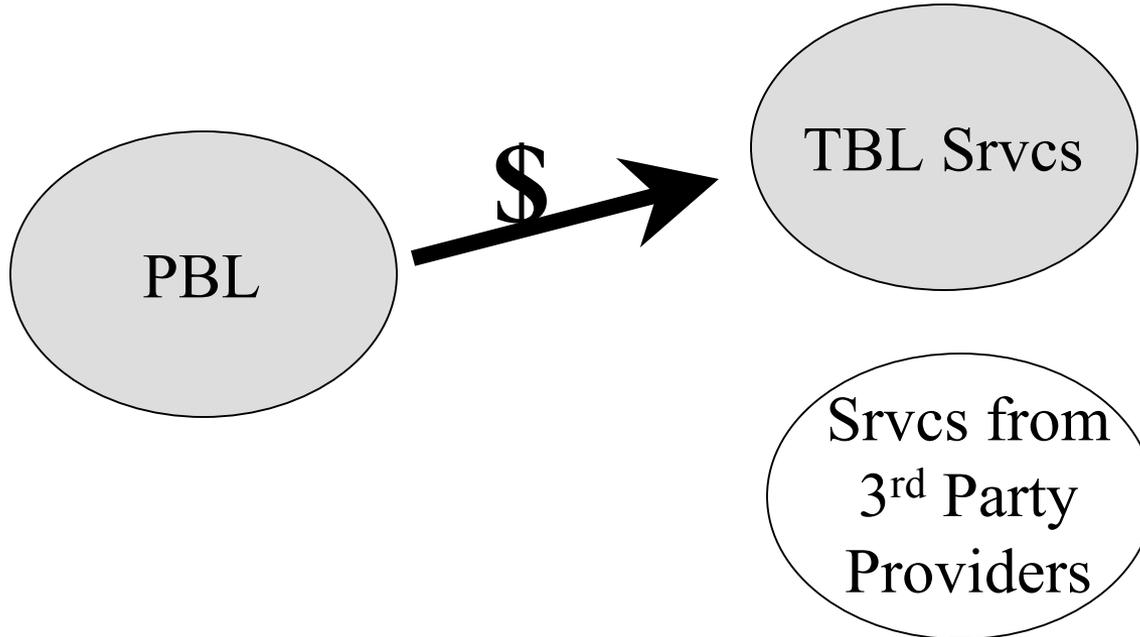
- ❖ Reassignment of Transmission under the Transmission and Ancillary Service Component
 - None assumed because reassignments would have a corresponding reduction in the Transmission and Ancillary Service Component. Program total would be reduced overall
- ❖ Estimate for marketing/re-routing
 - \$200k per year. In FY04 we used \$160K specifically for re-routing of Transfer Service.



Transmission Acquisition Program

Reserves and Other Services Component

Federal Generation Integration

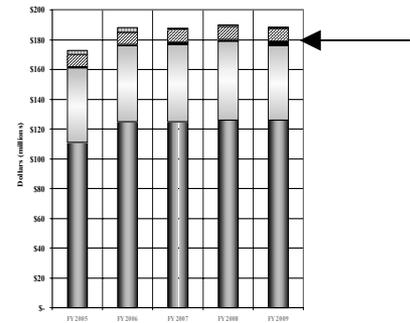




Transmission Acquisition Program

Reserves & Other Services Component

Federal Generation Integration



- ❖ The Generation Integration Component represent costs associated with BPA’s Transmission Business Line’s Generation Integration (GI) transmission segment.
- ❖ The Generation Integration (GI) segment is a transmission rate segment made up from transmission facilities between the generator and the Network station, including step-up transformers, power house lines or cables, and switching equipment at the Network station for the power house line.
- ❖ As of FY 02 –FY06 rate period, the GI segment has been functionalized to generation in conformance with FERC rulings. These costs were previously assigned to power rates when rates were bundled. The FY07-FY09 forecast assumes a continuation of GI being functionalized to generation.
- ❖ The costs billed to PBL by TBL are for the BPA-owned GI facilities. The GI segment costs associated with the US Army Corps of Engineers and Bureau of Reclamation transmission facilities and generator step-up (GSU) transformers are directly included in their generation costs.

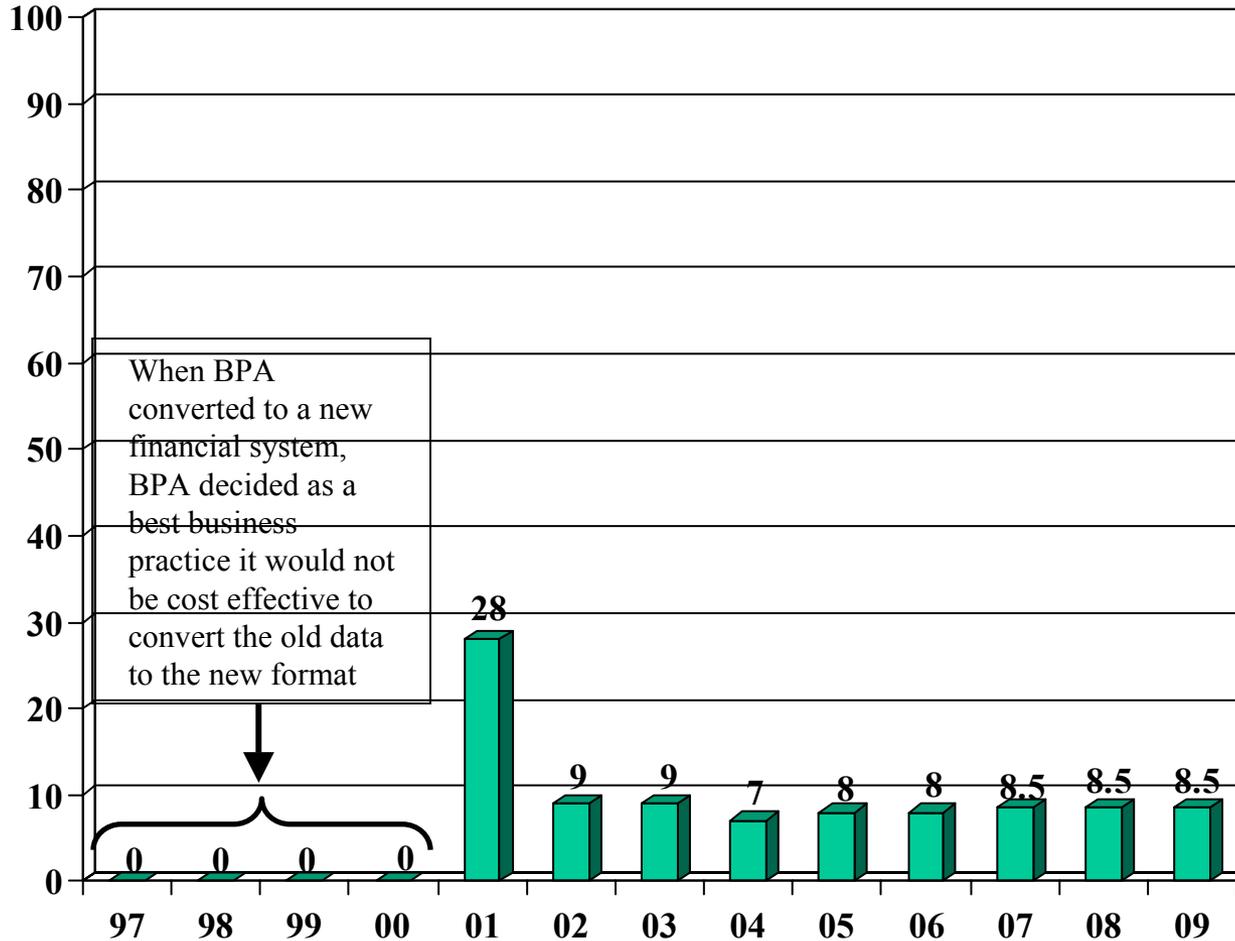


Transmission Acquisition Program

Reserves & Other Services Component

Federal Generation Integration

Million \$



When BPA converted to a new financial system, BPA decided as a best business practice it would not be cost effective to convert the old data to the new format

Reasons for Changes in expense levels over time

- ❖ Changes in investment and associated annual costs.



Transmission Acquisition Program

Reserves & Other Services Component

Federal Generation Integration

❖ Major Drivers of Change

- ❖ In setting rates for the period beginning October 1, 2001, BPA bifurcated its general rate proceeding into separate power and transmission rate proceedings. Costs associated with generation are assigned to the PBL.



Transmission Acquisition Program

Reserves & Other Services Component

Federal Generation Integration

❖ Risks

- ❖ Adding or replacing facilities to the segment
- ❖ Higher inflation for O&M costs

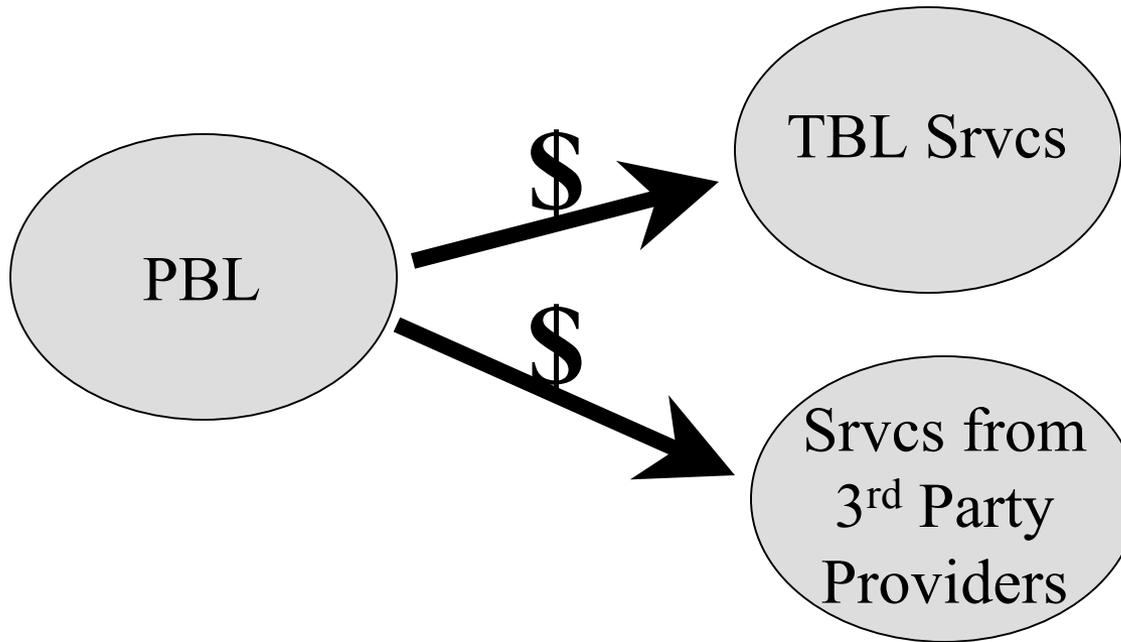
❖ Managing Costs

- ❖ Generation Integration costs are set in the TBL rate case, PBL does not have direct control over managing costs.



Transmission Acquisition Program

Telemetry/Equipment Replacement



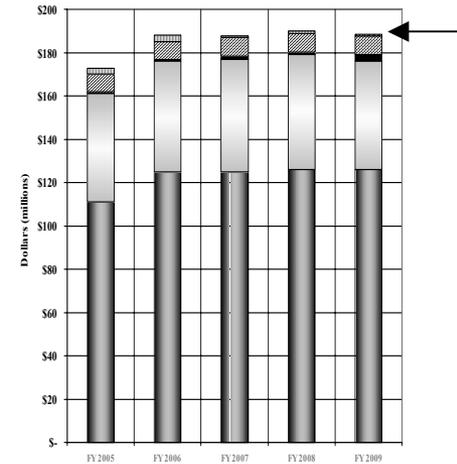


Transmission Acquisition Program

Telemetry/Equipment Replacement Component

- ❖ The metering, communications and TBL Engineering support component represent costs associated with
 - ❖ Installation of metering, telemetry, communications equipment & replacements and ongoing charges to meet increasing PBL business requirements for frequency and granularity of meter data.

- ❖ Major Drivers of Change
 - ❖ Industry moving towards a more granular reporting of transmission schedules than we have historically seen which will change our metering requirements.

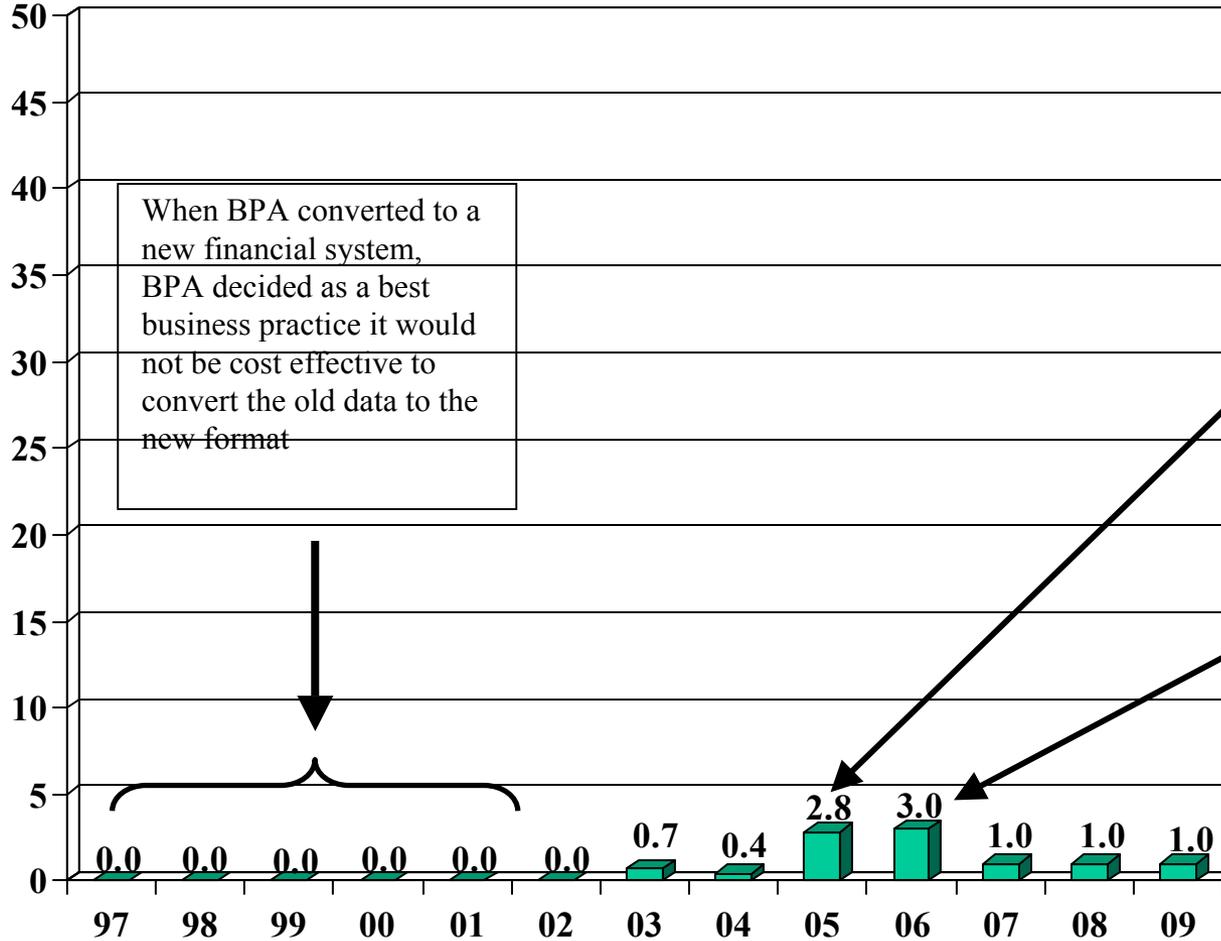




Transmission Acquisition Program

Telemetry/Equipment Replacement Component

Million \$



When BPA converted to a new financial system, BPA decided as a best business practice it would not be cost effective to convert the old data to the new format

This increase is due to the Tacoma Telemetry Project

FY 06 was based on additional metering/communications need to implement an RTO by FY07. Because of the delay of implementing an RTO this level of spending will most likely decrease and be moved out past FY09 if necessary



Transmission Acquisition Program

Telemetry/Equipment Replacement Component

❖ Risks

- ❖ Existing metering/communications equipment inadequate to meet increasing scheduling criteria set by transmission providers could cause financial exposure (i.e., energy imbalance charges).
- ❖ RTOs
- ❖ Control Area Consolidation
- ❖ Zonal Scheduling

❖ Managing Costs

- ❖ Collaboratively working with customers to develop plans of service, determine meter data needs, and identify mutually beneficial options.



Transmission Acquisition Program Wrap-up

- ❖ We hope after seeing our presentation you feel that we are achieving our primary goals of: (1) being good stewards of our transmission expenses by determining the least-cost mixture of long-term and short-term transmission products that can meet the needs of PBL's secondary energy marketing strategy and (2) meeting the Agency's transfer service obligation, while attempting to meet specific customer desires by having open communications between our customers regarding plans of services, metering needs, and long-term forecasts.
- ❖ We will always welcome your feedback regarding our program levels.

Thank you for taking the time to participate in this session.



Appendix A

Methodology for the Transmission and Ancillary Services Forecast: Grandfathered Transmission



Methodology for the Transmission and Ancillary Services Forecast: Grandfathered Transmission

- ❖ The billing demand for Grandfathered Transmission is the monthly network and intertie contract demands listed in Statement of Principles Memorandum of Agreement (SOP MOA).



Methodology for the Transmission and Ancillary Services Forecast: Grandfathered Transmission

Calculation for use of the TBL Network:

Monthly Grandfathered Contract Demand for the Network (MGCD)* Monthly PTP Rate

+

MGCD * Monthly SCD Rate

+

MGCD * Monthly GSR Rate

+

MGCD * Usage Factor of 45%_{1/} * Spinning Reserve Requirement of 2.7%_{2/} * Spinning Reserve Rate (kwh)

+

MGCD * Usage Factor of 45%_{1/} * Supplemental Reserve Requirement of 2.7%_{2/} * Supplemental Reserve Rate (kwh)

- 1/ Usage factor based on historicals – we adjust the usage factor with changes in usage over time- *CEA and PAC peaking contract both have low usage factors.*
- 2/ 2.7% is derived from expected generation of 80% hydro at a reserve requirement rate of 2.5% and 20% thermal at a reserve requirement rate of 3.5%.



Methodology for the Transmission and Ancillary Services Forecast: Grandfathered Transmission

Calculation for use of the TBL Intertie:

$$\begin{aligned} & \text{Monthly Grandfathered Contract Demand for the Intertie (MGCD_IS)* Monthly} \\ & \quad \text{IS Rate} \\ & \quad + \\ & \quad \text{MGCD_IS * Monthly SCD Rate} \\ & \quad + \\ & \quad \text{MGCD_IS * Monthly GSR Rate} \end{aligned}$$



Appendix B

Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

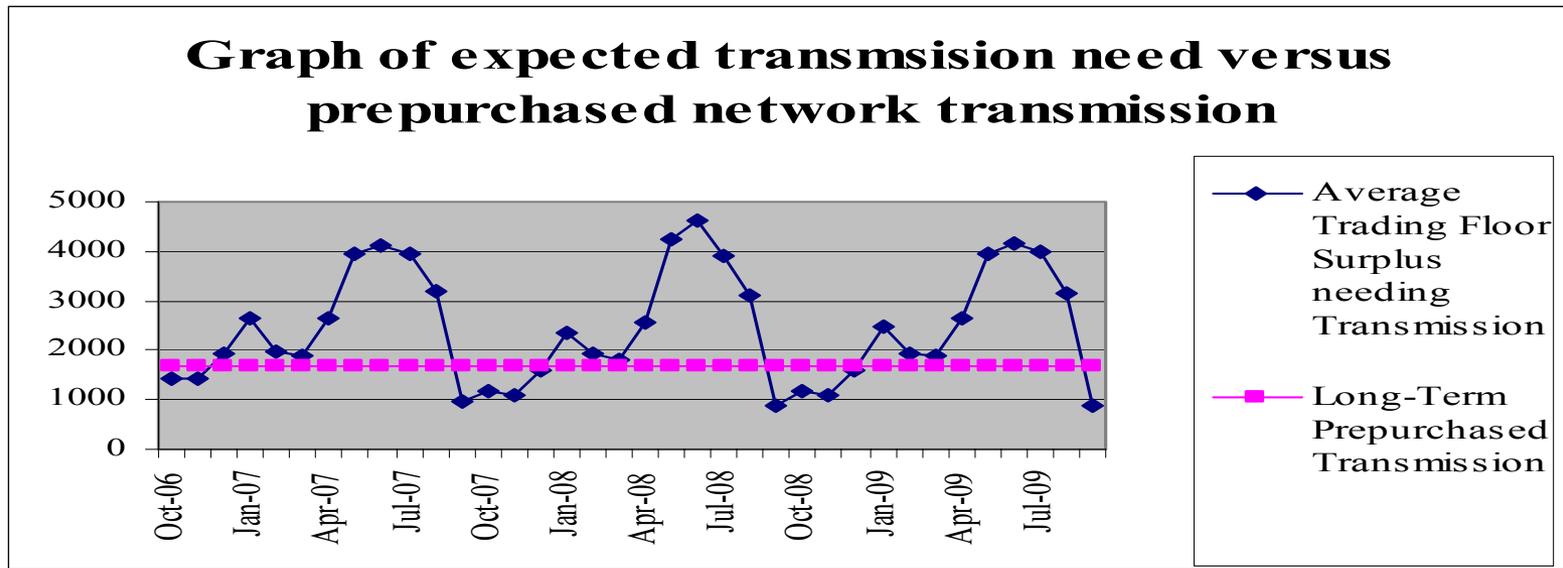
- ❖ The OATT Transmission Forecast is comprised of pre-purchased long-term PTP and IS transmission (purchased for up to 20 years) plus incremental short-term PTP and IS transmission (purchased for less than 1 year).
- ❖ To calculate the OATT expenses associated with secondary energy we take the average transmission and ancillary expense associated with 3000 secondary energy variations. The 3000 secondary energy variations reflect probabilistic hydro, load and nuclear variability.



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Pre-purchased long-term transmission over the TBL network

- Strategy is to purchase long-term network transmission to meet expected minimum secondary energy, guaranteeing some level of access to markets in high secondary energy months. Then fill in with short-term OATT transmission.

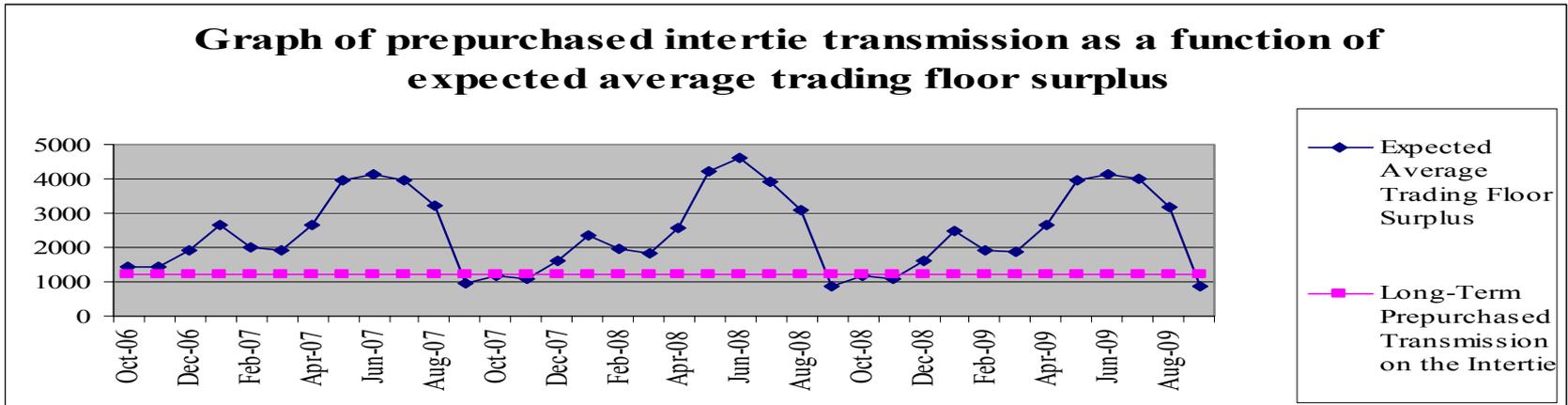




Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Pre-purchased long-term transmission over the TBL Intertie

- During the FY07-FY09 period, PBL holds long-term transmission of 900 MW on the COB and 324 MW on the NOB to access the California market in the late spring and summer when we have large amounts of secondary energy to move.





Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Contract demand for OATT PTP on the TBL network is based on

- the pre-purchased PTP on the network plus
- any incremental need resulting from the difference of the pre-purchased PTP and all committed flat or HLH secondary energy sales plus 90%^{1/} of average monthly expected secondary energy sales.

PTP Expense Calculation for TBL's network :

Monthly pre-purchased PTP Transmission Demand * Monthly PTP Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Daily Firm PTP Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Hourly Non-firm PTP Rate

1/ 90 percent is the expected average percent across a year of average monthly secondary energy sales needing delivery after accounting for book-outs and raw sales.



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Ancillary Service Expense Calculation for TBL's network :

Scheduling, System Control, and Dispatch Service (SCD) Costs

Monthly pre-purchased PTP Transmission Demand * Monthly SCD Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Daily SCD Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Hourly SCD Rate



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Ancillary Service Expense Calculation for TBL's network (con't) :

Reactive Supply & Voltage Control From Generation Sources Svc (GSR) costs

Monthly pre-purchased PTP Transmission Demand * Monthly GSR Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Daily GSR Rate

+

50% of the monthly incremental need above monthly pre-purchased PTP Transmission *
the Hourly GSR Rate



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Ancillary Service Expense Calculation for TBL's network (con't) :

Operating Reserve Costs

All committed flat or HLH secondary energy sales plus 90% of average monthly expected secondary energy sales * Usage Factor of 60%_{1/} * Spinning Reserve Requirement of 2.7%_{2/} * Spinning Reserve Rate (kwh)

+

All committed flat or HLH secondary energy sales plus 90% of average monthly expected secondary energy sales * Usage Factor of 60%_{1/} * Supplemental Reserve Requirement of 2.7%_{2/} * Supplemental Reserve Rate (kwh)

- 1/ Usage factor which is the amount of energy delivered under the transmission contract demand purchased is based on historicals – we adjust the usage factor with changes in usage over time. Firm Transmission is purchased in 24 hour increments.
- 2/ 2.7% is derived from expected generation of 80% hydro at a reserve requirement rate of 2.5% and 20% thermal at a reserve requirement rate of 3.5%.



Methodology for the Transmission and Ancillary Services Forecast: OATT Transmission

Contract demand for OATT IS on the TBL Intertie is based on

- pre-purchased IS contract demand.
 - PBL secondary energy is not split out by NW and SW sales and there is limited short-term firm transmission sold on the Interties so we do not forecast any incremental costs above pre-purchase intertie.

IS Expense Calculation for TBL's Intertie:

Monthly Pre-purchased IS Transmission Demand* Monthly IS Rate

+

Monthly Pre-purchased IS Transmission Demand * Monthly SCD Rate

+

Monthly Pre-purchased IS Transmission Demand * Monthly GSR Rate



Appendix C

Methodology for the Transmission and Ancillary Services Forecast: Other Expenses



Methodology for the Transmission and Ancillary Services Forecast: Other Expenses

- ❖ Bureau of Reclamation project revenue allocated to TBL.
 - TBL's allocation of project revenues received from the Bureau.
 - The revenue is a transfer on the between business line bill, so shows as an expense to PBL.
 - A lack of detailed information existed when the business lines separated. Because of this lack of information, the business lines agreed (in 1997) to split the revenues such that the PBL received 75 percent and the TBL received 25 percent of the revenues.
 - The expected revenue transfer to TBL is based on FY04 historicals then escalates over time by 3%.



Methodology for the Transmission and Ancillary Services Forecast: Other Expenses

- ❖ Regulation for Requirement Customers who's power contracts include regulation
 - The expected revenue transfer to TBL is based on the FY04 actual expense then increased for the 6.7% FY06/FY07 rate increase in the regulation charge. Escalates with the rate assumptions FY08 and FY09.

- ❖ Operating Reserves for Requirement Customers who's power contracts include operating reserves
 - The expected revenue transfer to TBL is based on the FY04 actual expense then decreased for the FY06/FY07 rate reduction of 5.5.%.



BPA's Financial Disclosure Information

1. "All FY05-09 information was provided on February 1, 2005 and cannot be found in BPA-approved Agency Financial Information but is provided for discussion or exploratory purposes only as projections of program activity levels, etc."
2. "All FY97-04 information was provided on February 1, 2005 and is consistent with audited actuals that contain BPA-approved Agency Financial Information".