



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

Tier 1 Rate Design

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



Policy decisions that are critical to rate design

✿ Stability

- The value customers get from their Tier 1 HWM is extremely difficult to be taken away through changes in Rate Design
- Define mechanism that naturally adopts to changes and preserves equity

✿ Incentive for Resource Development

- Certainty about Tier 1 rate and implications of customer resource choices
- Incentives to add resources with highest value
- Incentives for conservation and demand side management

✿ Equity among customers

- Customers pay cost (not opportunity cost) for the “allocation” of existing system capabilities
- Customers who take more pay the full cost of the additional service
- Minimal cost shifts
- Reduce division between Slice/Non-Slice

✿ Simplicity and ability to move Regional Dialogue process forward promptly

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



Alternative #4 Tier 1 Rate Design Proposal Overview

- ❁ Base assumptions
 - Marginal price signal for energy is Tier 2 price
 - Marginal price signal for capacity is in Tier 1
 - Marginal price signal for load variance is in Tier 1
- ❁ 12 Monthly HLH/LLH Energy rates
 - Applied to the Total PF load minus Tier 2 energy
- ❁ 12 Monthly Demand Rates – currently the rate is the same for each month
 - Applied to HLH Tier 1 Demand above average monthly Tier 1 energy on customers hour of peak
- ❁ Load Variance rate applied to monthly Tier 1 HLH/LLH energy deviations from forecast (not TRL as currently done with Load Variance)

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional

Proposed Method to Calculate Energy Rates

- ✿ Begin with 2 year average monthly HLH/LLH forecast market prices
- ✿ Compute total revenue as if forecast load pays market
- ✿ Reduce market prices by a single constant so that revenue requirement is not over collected.
 - [Market Revenue] = Market Prices applied to forecasted billing determinants
 - [Market Revenue] – [Revenue Requirement net of Demand] = [X]
 - [X] / [Total Energy Billing Determinants] = [Constant]
 - 24 [Market Prices] – [Constant] = 24 [PF Rates]

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



Example Energy Rate Calculation

Market Prices

Energy Mills/kwh	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
HLH	53.34	63.03	66.13	59.13	59.27	56.85	47.16	41.76	41.17	49.51	54.63	56.83
LLH	46.08	52.01	54.79	50.01	52.39	50.21	40.56	35.55	31.27	41.07	46.87	50.78

Forecast Billing Determinants

PF billing determinants (GWHs)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
HLH	6,731	7,389	8,384	8,552	7,483	7,491	6,747	6,667	6,314	6,820	6,912	6,367
LLH	4,327	4,887	5,658	5,630	5,114	5,102	4,493	4,465	4,189	4,454	4,519	4,196

Revenue at Market

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
HLH	\$ 359,014	\$ 465,698	\$ 554,383	\$ 505,702	\$ 443,474	\$ 425,852	\$ 318,183	\$ 278,455	\$ 259,963	\$ 337,642	\$ 377,598	\$ 361,831
LLH	\$ 199,390	\$ 254,135	\$ 310,053	\$ 281,524	\$ 267,900	\$ 256,194	\$ 182,252	\$ 158,734	\$ 130,972	\$ 182,892	\$ 211,821	\$ 213,059

- Revenue Requirement (minus forecasted demand revenue) = \$3,672,086
- Total Revenue at Market Rates = \$7,336,722
- Over collection = \$7,336,722 - \$3,672,086 = \$3,664,636
- Total Energy Billing Determinants = 142,890 GWhs
- \$3,664,636 / 142,890 GWh = \$25.65/MWh
- Market Prices minus \$25.65/MWh = PF Rate

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



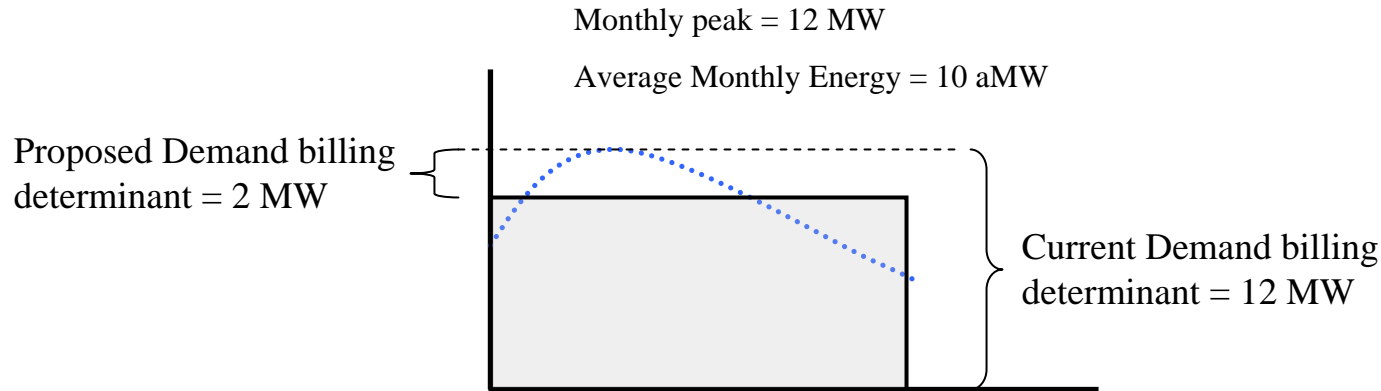
Benefits of this Energy rate design

- ❁ On a forecast basis, this rate design holds the value [Market – PF] of the PF energy rate equal in all periods of the year.
 - Implies any two customers taking equal MWhs in different shapes receive equal FBS benefit.
- ❁ Decreases customer incentive to bring in a particular shaped resource to game PF against Market.
- ❁ Slight change from today's rate design.



Proposed Change to Demand Billing Determinant

- Bill on customer hour of peak
- Measured as month HLH Tier 1 demand above HLH or month average Tier 1 energy



Proposed Method to Calculate Demand Rate

- Use the average of councils forecast of levelized capital cost of SCCT.
 - This method of valuing demand brings long-term stability whereas the method of load factoring spot market prices does not.
 - Council is a third party that we have used before.
- Use the combination of a smaller Demand billing determinate and a fixed percentage deflation of the SCCT cost to mitigate customer cost shifts, defined as changes from WP-07 rate design.

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



Benefits of this Demand Rate Design Change

- ❁ Benefits demand side management as customers have requested
 - Through both being at a market value and on a peak the utility has more control
- ❁ Proposed change in demand billing determinants:
 - Minimizes impacts on all customers.
 - Provides as much demand at BPA's embedded cost without jeopardizing inter-customer equity.
 - If loads become more peaky, increases that occur beyond FY 2010 peak are billed at the demand rate thus passing on a marginal price signal for demand to the utilities.
 - Better addresses 6-hour super peak capacity issues through diversity.
- ❁ More predictable and stable

Proposed Method to Calculate Load Variance

- ❁ Load Variance charge will be applied after-the-fact for deviations from forecast.
- ❁ The Load Variance charge is used to credit/debit Tier 1 HLH/LLH energy deviations from forecast.
- ❁ [Load Variance Charge] = [Forecast Market Prices] – [PF Rate] = [Constant] = \$25.65/MWh
- ❁ After some internal discussions, we are currently exploring options of having an insurance-type rate (much like today) as well as charging for variation from forecast.

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional



Benefits of this Load Variance

- ❁ Interacts well with Tier 2
- ❁ Interacts well with constant scaling of the Tier 1 rate
- ❁ Makes future forecasts less contentious
- ❁ Decreases inter-customer cost shifts

Date: 5-18-2007

Purpose/Subject: Tier 1 Rate Design Workshop

Legal Disclaimer: Deliberative and pre-decisional