Mission Statement:

The UTC protects consumers by ensuring that utility and transportation services are fairly priced, available, reliable, and safe.



Washington Utilities and Transportation Commission

Electricity Rate Structures: Basic Philosophy and Alternatives

Prepared for the Kyrgyz Republic NAAPDC

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Customer Classes



- Customer classes reflect generally similar use patterns.
- Five basic customer classes in Washington:
 - Residential
 - General service (commercial & light industrial)
 - Large power service (heavy industrial)
 - Irrigation pumping
 - Lighting street, traffic, and security
- Multiple rate structures within some classes.

Utility Costs



- The cost of serving individual customer classes depends on:
 - The nature of their demands on the system
 - The facilities required to serve them
 - The pattern in which these facilities are used
- The <u>Cost Causation Principle</u> holds that each customer class should pay for the costs that customer class imposes on the utility

Cost Studies



- A cost study is an analytical tool that determines what utility resources (plant, personnel and fuel) serve each customer class and assigns the cost of those resources to that class of customers
- Studies use data from all facets of operations: accounting records, engineering analyses, resource planning, load research and customer billing.
- Not a simple arithmetic exercise; cost studies require a significant amount of analytical judgment.

– There is no one right answer, but many political choices

Production Costs



- Costs associated with producing power (including associated operation and maintenance expenses) and purchasing power, make up roughly 2/3 of the total electric costs
- Major issues are:
 - Classification of production costs as either demand or energy
 - What measure of demand to use
 - Such as defining peak use as the one highest use hour of the year, the 200 highest hours, or the one highest hour in each of the twelve months.

Production Cost Classification Affects Rate



- The proportion of production plant cost classified as demand or energy significantly affects each customer class.
 - Plant, (rate base) from all functions, is the basis for the earnings of the utility.
 - Shifts in the allocation of rate base between customer classes directly affects the rates for each class.

Transmission Costs



- Costs incurred for transporting energy from generation to load centers are small, but important to outcome.
- Difficult to measure which customer classes cause the costs of the transmission system.
 - In Washington transmission plant is allocated the same as production plant.
 - But many variations exist.

Distribution Costs



- The costs associated with facilities necessary to connect customers to transmission system.
- The <u>Basic Customer Method</u> treats substations, poles & wires, and line transformers as demand (non-coincident) and service drops and meters as customer-related.
- The <u>Minimum System method</u> determines the minimum size system and classifies it as customer-related, the difference in total investment is demand-related.

Other Costs



- These include customer related costs such as meter reading, billing, collections and customer service.
- Also includes administrative and general costs, and joint or common costs which are often allocated on the same basis as general plant or labor ratios.

Class Parity



Goal is for each customer class to provide an equal return on the rate base assigned or allocated to that class

Rate Spread



- Rate Spread is the combination of the cost study with policy considerations to develop class specific revenue requirements.
- WUTC does not strictly apply cost studies to rate spread: "Allocation must depend on principled judgment rather than science."
- One of the most critical and contested parts of a rate case.

Rate Spread — Policy Considerations



- Consistency with economic and social goals, for example
 - To direct population growth.
 - To expand service to all areas
 - To ensure very low income persons have access to electricity
 - To attract industry and create jobs.
- Revenue stability will rates for a certain class be so high as to drive them off the system?



- Class risk do some customers impose greater risks on the utility, such as causing more long-term investments without assurance of long-term revenues?
- Fairness and equity do customers believe they are being treated fairly compared to other classes?

Attributes of a Sound Rate Structure



- Practical, Simple and Understandable
 - accepted by public
- Free from controversy in application
- Allows opportunity for a fair return to utility
- Avoids undue discrimination between customers
 - Different rates among similarly situated customers is considered preferential and discriminatory without a strong policy rational for those differences.

Departure from Strict Cost of Service Methods



- "Special Contracts" are for customer that do not conform with or fit into existing customer classes.
 - These customers show valid opportunity and means to avoid the power grid.
 - Customer must show there are no other similar customers.
 - Contract charges must recover all costs to serve including a contribution to fixed costs.

Departure from Strict Cost of Service Methods- continued



- Some customers may accept a lower level of service for lower rates.
 - Such as power interruption during times of system stress.
 - Effect is to remove potential capacity costs on system.
- Customer not frequently interrupted calling into question value for system reliability.

Social Welfare Goals



- Low income subsidies
 - May be accomplished through various means.
 - Basic program is a legislative solution through taxation and dissemination to needy.
 - Washington law allows utility to offer discounted rates
 - Low income agencies determine who gets the discount.
- Customers with electric heat cannot be disconnected for non-payment in winter months.

Economic Development Goals



- Some states offer preferential rates directly or indirectly.
 - Examples:
 - New York utilities offer a credit based on number of jobs created, or a discount to occupy a vacant building.
 - Massachusetts allows reduces rates if utility can show the discounted rate exceeds long-run marginal cost, is a critical factor in customer's decision to relocate, and electricity is a significant portion of customer's expenses.
 - Arizona approved a rate discount for existing manufacturer if the company added at least 200 new jobs each year.





We are available to take your questions