



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD



TO: Commissioners Brown, Carlson, Barofsky, McRae, and Schlossberg
FROM: Deborah Hart, Chief Financial Officer; TiaMarie Harwood, Financial Services Manager;
Marianne McElroy, Billing Operations Manager
DATE: June 29, 2022
SUBJECT: Rate Design Fundamentals
OBJECTIVE: Information Only

Issue

Developing a multi-year rate design plan is an element of meeting the objectives of EWEB's Strategic Plan, which identifies three phases starting with *Fostering Customer Confidence* and then *Creating Consumption Flexibility* to ultimately provide *Resilient Delivery*. The 2022 Organizational Goals and Performance Measures identify a multi-year rate design plan as an organizational goal:

7. Throughout 2022, in preparation for changing energy supply characteristics, consumption trends, and new product offerings (e.g., time of use, demand response), develop the consumption data analytics competency necessary to begin discussions and educational communications on a Multi-Year Rate Design Plan for implementation beginning in mid/late 2023.

This memo is intended to provide foundational information and context to lay the groundwork for this strategic work over the next year.

Background

There are three main activities associated with establishing customer rates (i.e., ratemaking); establishing a revenue requirement (*how much?*), cost allocation modeling (*who pays?*), and rate design & pricing proposal (*how is it collected?*). The Board has discussed cost allocation, revenue requirements, and rate design in recent years and has made significant decisions and progress in this area to align costs and pricing to retail customers, while meeting rate making principles and objectives.

In April 2021, staff presented the rate making principles of *Sufficiency*, *Affordability*, *Efficiency*, *Cost Basis*, *Equity*, and *Gradualism*. These exist within current EWEB policies and provide a framework for establishing prices for water and electric services.

Sufficiency is the principle that EWEB rates are sufficient to meet the reasonable ongoing costs of utility operations.

Affordability is the principle that EWEB makes all reasonable efforts to make rates affordable for its community owners.

Efficiency is the principle that EWEB will send efficient price signals to customers, that are cost based and minimize subsidies, to allow customers to make investments to either increase or decrease demand that are sustainable long term, without unfavorably impacting other customers.

Cost basis is the principle that EWEB will establish rates as a function of costs.

Equity is the principle that EWEB will charge customers nondiscriminatory prices and customers receiving like services will be treated equally.

Gradualism is the principle that EWEB rate stability is maintained and, to the extent feasible, rates do not unnecessarily shift year to year.

EWEB's cost of service analysis (COSA) model is the mechanism by which the utility allocates its costs amongst customer classes. The September 2021 COSA discussion provided an overview of the ratemaking process with a deeper dive into the cost allocation aspect. The cost allocation process informs pricing design decisions of utilities and ensures that the customer pricing structure aligns with utility costs. This provided context for the shift to a multi-year approach to align with EWEB financial and rate setting principles and potential customer impacts, particularly the principle of gradualism in making rate design changes.

Discussion

As you may recall, the final step in the rate setting process is to design rates for each customer class. The rate design process incorporates elements of the embedded cost of service analysis along with strategic direction, values, principles, and short-term and long-term marginal costs. The goal of rate design is to develop rates that align these elements and provide customers with a fair and reasonable price for utility services that allows individual customer choice to consume, conserve, or make investment decisions without impacting other customers.

Rate design involves the definition, allocation, and recovery of customer costs, distribution costs, supply and transmission costs, and other general costs incurred by the utility to provide service to customers. Commonly, rates consist of the following three components:

- Basic (Customer) Charge – recovers fixed costs associated with having the customer on the system, such as metering (operation and maintenance), customer billing/accounting, and customer care.
- Consumption (Demand) Charge – recovers variable operations and maintenance costs and applies to all usage consumed by the customer.
- Delivery Charge – recovers fixed costs on the system incurred to meet customer consumption or demand requirements such as fixed production costs, fixed transmission costs, and fixed distribution costs.

Rates can take many forms for both water and electric utilities. A rate form describes the components for a rate and ultimately should reflect the costs that the utility incurs to provide the service to the customer. There are three popular classifications for utility rates: Flat, Block & Time Differentiated. There are many additional options for rates under each of these classifications, but these 3 segments represent key distinguishing factors in how the rates are designed and administered to customers.

Flat Rates

Flat rates are the simplest of all rate forms and usually consists of a unitized charge. Under a flat rate, customers pay the same average rate per unit of consumption. While they are simple to understand and administer, a flat rate structure may not appropriately allocate costs to customer classes nor does it assure

accurate revenue recovery since they are based on a theoretical level of consumption. Flat rates provide minimal information on how consumption patterns affect costs and does not aid in encouraging conservation.

Block Rates

A block rate separates a consumer's usage into "blocks" and applies a different rate to each block. With this structure, the rate varies based on the level of consumption on either a declining or inclining/inverted basis.

Declining block rates reward higher consumption customers because unit costs typically decrease as a customer's consumption increases. Declining block rates recover fixed delivery charges as quickly as possible and can create revenue stability for the utility, however they are contrary to conservation efforts and do not reflect marginal costs of production.

Inclining/Inverted block rates provide the exact opposite incentive as declining block rates and are set to encourage conservation of resources since unit costs increase as a customer's consumption increases. These rates are set to track marginal costs to give correct pricing signals that resources are limited.

For both types of block rates, setting the appropriate block size can be difficult and requires careful analysis using detailed and accurate bill frequency data to evaluate customer class usage patterns and load factors.

Time-Differentiated Rates

Time-of-Use (TOU) rates vary during different time periods and reflect any variances in the utility's costs of generating or of purchasing electricity at the wholesale level. These rates include prices that are established in advance and fixed for each defined pricing period and require advanced metering technologies that can report usage for specific periods of time. These rates typically define a multi-hour time of the day as an "on-peak" period, during which prices are higher than during "off-peak" hours.

Time Differentiated Rates are also known by names like Critical Peak Pricing (CPP) or Peak Time Rebates (PTR). These options all build off the premise that when the service is provided directly impacts the costs to deliver it.

Conclusion

Many alternatives have been suggested for future rate design applications, however recent design studies emphasize the need for time-differentiated pricing as well as some form of demand-response pricing. EWEB currently faces a legacy system of non-TOU rates that are either flat across all usage levels or are designed with increasing or decreasing prices for increasing amounts of consumption. Due to the underlying costs of providing electricity vary hourly and seasonally, it is difficult for the customer to see an appropriate price signal. As EWEB continues to deploy smart technologies the connection between consumption patterns and underlying costs will become increasingly visible, enabling customers to make informed usage decisions.

Recommendation and Requested Board Action

This item is information only and no Board action is being requested at this time.