



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD



TO: Commissioners Simpson, Helgeson, Manning, Mital and Brown  
FROM: Erin Erben, Chief Customer Officer; Sue Fahey, Chief Financial Officer  
DATE: September 23, 2016  
SUBJECT: EWEB Cost Allocation & Pricing Update  
OBJECTIVE: Direction on 2017 COSA Pricing Process

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## ***Issue***

The existing electric cost of service allocation (COSA) model has been used for approximately two decades. In preparation for the 2017 Pricing Process, EWEB engaged a consultant, EES Consulting, to assist in updating the model. EES and staff are also developing a partial requirements price option to be included with the November proposal. This memo provides background on the model update effort and an overview of the pricing option management plans to bring before the Board for feedback.

## ***Background***

### ***Cost Allocation Modeling***

EWEB's existing cost of service analysis (COSA) model was developed in the mid-1990s. In order to have the ability to respond to changes in utility business, the decision was made to update the model and have current staff involved in the process with the support of consulting services.

EES Consulting assisted staff in the development of the COSA model and NERA Economic Consulting is supporting development of a marginal cost study. Staff has worked over the last several months to modernize our cost allocation model, developed in collaboration with EES consultants, and will be working with NERA through the remainder of 2016 to complete a marginal cost study.

### ***Pricing Proposal***

Management has plans to do customer outreach in the near future regarding pricing design. Selection of a customer panel and refinement of the pricing design options will be reviewed with them and will commence early in 2017. However, as part of the 2017 price proposal that will come to you in November, management will be recommending the Board adopt a partial requirements pricing option that will be applicable to large commercial customers with generating facilities, which opt to self-supply part or all of their onsite retail load. This will allow EWEB to better price its services, ensure fair and equitable cost recovery from all users of the grid while still meeting the changing needs of our customers and also minimizing the impacts to other customer classes.

## **COST ALLOCATION (COSA AND MARGINAL COST) PROCESS**

Utility costs must be allocated to different customer classes to ensure customers' pricing structure aligns with utility costs. The cost allocation process also informs pricing design decisions of utilities.

There are two primary methodologies to allocate costs and inform pricing structures: the embedded cost or cost of service model and marginal cost method.

### **A. COSA Model**

The COSA model is used to equitably allocate the revenue requirement of the utility among the customer classes and derive average unit costs for use in subsequent electric pricing design. In principle, once the allocated costs are assigned to customer classes, the electricity rate design or pricing design should assure recovery of the utilities' prudently incurred costs and provide the right price signal to guide customers about usage and consumption patterns. The 2016 budget was selected as a test period for the allocation of costs in the updated model, to calibrate the model vis-à-vis last year's results from the prior model.

### **Major Assumptions of the COSA**

The major assumptions used in the new cost of service model include the following:

- a) Cash basis used to determine revenue requirement to conform with budget process and provide long-term view of capital investments;
- b) Load forecasts based on budgeted forecasts; and
- c) Revenues projected based on forecasted loads and current revenues.

Changes from the prior model assumptions include the following:

- a) Updates to customer load forecast and class based attributes such as load factors and class coincidence, where data was available;
- b) Reflect changes in FERC chart of accounts that more accurately reflect FERC accounting;
- c) Review and update of individual FERC accounts' allocation; and
- d) Update of split between demand and energy allocation for power resources and contracts.

### **Three Steps Performed in the COSA**

Once the revenue requirements to recover the utility costs are established, the equitable allocation is performed using a three step process:

- Functionalization
- Classification
- Allocation

Functionalization of costs is the process of dividing the total revenue requirements into the functional activities performed in the operations of the utility such as production or power supply, transmission, distribution and customer related costs.

The second step is to take the functionalized costs and classify them by customer, energy, and demand related costs. In other words, the process of separating functionalized costs by the primary driver for that cost.

The last step allocates the functionalized and classified revenue requirements to the different customer classes. Once costs are allocated, the unit cost by customer is used to recover the revenue requirement through fair and equitable pricing design.

### **New Cost of Service Model**

The development of the new COSA model is part of EWEB's ongoing effort to maintain fiscally prudent and fair prices by ensuring the financial health of the utility, minimizing cross-subsidies, and valuing our customers' choices to optimize their usage through the adoption of changing consumption behaviors and emerging technologies.

The new model indicates EWEB is collecting sufficient revenues to meet projected costs, is generally aligned with prior model results, and will be used to support future pricing strategies.

### **B. Marginal Cost Study**

Some jurisdictions use marginal cost studies for both the cost allocation and price design. Others use embedded cost studies (COSA) for allocation and marginal cost for price design or vice versa. Accurate estimates of marginal costs are essential for determining:

- a) Appropriate retail cost allocation to customers within a class, or across classes;
- b) how costs change in a growing or declining load scenario;
- c) Benefits of load management and conservation programs;
- d) Design of special contracts for individual customers or a group of customers; and
- e) The level of cost shifting associated with installation of distributed energy resources.

According to long-established economic theory, an additional unit of consumption should only occur if the value of that consumption to the customer exceeds the marginal cost. The importance of marginal costs in economic theory is that, as a general principle, economic efficiency is maximized when prices are set at marginal cost. The marginal cost study calculates the cost of serving a marginal customer in terms of customer costs, marginal demand impacts on the transmission and distribution system, and marginal energy and capacity costs. These cost estimates provide customers with efficient price signal for decisions regarding their consumption of electricity and ensures we understand the cost burden to the entire customer base or growing or declining load.

## II. ELECTRIC UTILITY - RETAIL PRICING DESIGN PROPOSAL

### A. Standby or Partial Requirements Service Pricing

The concept of a partial requirements pricing option applies to customers that own generation and wish to offset retail load through self-supply. This is not currently a standard option for customers over 200 kW.

This type of pricing option has been explored with the Board before. In July 2015, management brought the Board a recommendation to adopt both a Stranded Investment Policy and a Partial Requirements option. At the time, the Board was generally supportive, but clearly indicated that these pricing mechanisms should apply only to large customers, which was not clear in staff's proposal. Staff then brought back a Stranded Investment Policy recommendation in August 2015, which the Board approved<sup>11</sup>. We waited for the results of our updated COSA to propose a class specific partial requirements price plan, which will now be brought before you in November.

The intent of the partial requirements price plan is to create a way for large customers with generation to self-supply, requests have been made on various occasions, while still ensuring that fixed transmission and distribution costs used to provide on-demand delivery service to these customers are still recovered, thereby avoiding cost shifts to other customer classes. This is an issue because EWEB (and most utilities) current pricing design includes fixed cost recovery for delivery and generation costs in variable (per kWh), or volume based, billing components. Because partial requirements customers will remain connected to the grid and EWEB will continue to invest in resources to provide on-demand service to these customers when needed (i.e. when their own generation is not running), this is a fair and equitable cost allocation to such a customer segment. Having a pricing option for customers that want to self-supply generation allows the utility to better partner with customers regarding their changing service needs, while still upholding our longstanding principles of cost-causation and equity in pricing.

The proposed standby price for partial requirements service includes standard utility pricing constructs such as basic charge (for meter reading, customer service, public purposes), distribution / facilities charges (for fixed distribution system costs and customer specific investments), and an energy charge (for power needs not supplied by customer owned generation), as well as generating capacity related costs (for generation capacity on standby to serve load). What is different is that the costs are allocated to billing determinants consistent with how the costs are incurred (i.e. whether fixed or variable, or meant to serve peak load). We are contemplating making this pricing plan applicable to customers over 1 megawatt of demand, and a generator over 1 megawatt. Such a cutoff would not impact any existing owned generation that offsets retail load (i.e. would not be applicable to any current customers). However, it does leave a gap between customers with 200kW-1MW of owned generation. BPA uses several size classifications to determine its integration services for generator owners that operate in the BPA Balancing Authority area. All generation >200kW is required to interconnect with BPA. Generator requirements for units sized  $\geq 1$ MW include generation estimates and may include scheduling and ancillary and control area services to balance any impact to the transmission system.

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<sup>11</sup> EWEB Board Resolution No. 1516

## **Rate Design Process**

The process for developing a partial requirements pricing structure involves multiple steps, including:

- a) Identifying new organizational objectives / risks;
- b) Updating EWEB cost estimates through its updated COSA methodology;
- c) Surveying industry rate structures related to similar objectives;
- d) Developing a reasonable rate design and incorporating consultant feedback; and
- e) Running billing estimates to determine customer impacts.

The partial requirements price plan will include the following components:

- Basic Charge to recover fixed monthly costs
- Facilities charge to recover dedicated investments and related expenses, such as services, metering, and allocation of substation and distribution system costs. These costs are typically billed on a ratcheted demand, or the highest 15-minute demand in the last 18-months.
- Demand charge to recover generation capacity and transmission capacity costs. These costs are typically billed on a monthly peak demand.
- Energy charge for customer's power requirements, not being met with customer owned generation. These costs are billed on a kilowatt hour basis.

The review of other utilities<sup>2</sup> partial requirements offerings shows this is a standard offering from utilities.

Management intends to recommend approval of a specific partial requirement price plan at the November Board meeting.

## **III. PUBLIC PROCESS**

Per previous discussions with the Board about changing retail price structures, we are embarking on a customer engagement process to test acceptance of the tradeoffs related to different pricing strategies. As we continue to redefine our cost modeling and seek feedback from the community on our pricing strategies, we will incorporate the results of these efforts into future pricing proposals in 2018 and beyond.

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<sup>2</sup> The survey of utilities included Oregon PUC jurisdictional utilities Portland General Electric and Pacific Power, as well as Seattle City Light, Salt River Project, Idaho Power, Southern California Edison, and Pacific Gas & Electric for a range of different rate designs.

***Recommendation***

Management recommends that the Board direct staff to prepare the 2017 COSA as described above and provide feedback on the Standby or Partial Requirement Pricing.

***Requested Board Action***

Management is not requesting Board action at this time; however staff is requesting the Board provide direction on the pricing proposal. At the November 1 Board meeting, management will present the COSA results and pricing proposal for approval at the December 6<sup>th</sup> meeting.