MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson
FROM:	Frank Lawson, General Manager
DATE:	August 24, 2020
SUBJECT:	McKenzie Valley Service Territory & Ratemaking
OBJECTIVE:	Information Only

Issue

In October, the Board will be asked to provide guidance to Staff as to whether the 2021 pricing proposals should include a separate McKenzie Valley electric rate for potential approval in December. The purpose of this memorandum, and the associated September Board Meeting discussion, is to assist the Board with further background and to provide context prior to upcoming discussions with external stakeholders and Staff.

Background

Eugene Water & Electric Board (EWEB) facilities and operations have been part of the McKenzie Valley beginning with the Walterville Generation Plant, which celebrated its opening on February 17, 1911. Presently, EWEB operates in the McKenzie Valley in three distinct ways including electricity generation, watershed & source protection, and the distribution of electricity.

Presently, EWEB supplies electricity to 2,624 accounts (meters) in the McKenzie Valley, including 2,477 residences. This total represents 2.9% of EWEB's total customer accounts (90,728) and 3.1% of EWEB's residential accounts (81,318).

In 2013, EWEB and Lane Electric Cooperative (LEC) explored a potential service territory transfer for the distribution of electricity in the McKenzie Valley. For several reasons an agreement was not completed, although interest still exists between EWEB and LEC management. Asset valuation, BPA Tier I entitlement, and customer perception associated with pricing and service levels were all factors evaluated as part of the potential agreement.

In May 2019, the Board directed Staff to analyze the cost to serve the McKenzie Valley portion of the EWEB electric service territory. In October 2019, Management presented to the Board a high-level evaluation of EWEB's cost of service for these customers relative to the overall customer base. That evaluation indicated a cost differential of approximately 10-15%, which was confirmed by a cost of service analysis (COSA) commissioned from a consultant in spring 2020 that showed a $700,000 under collection (or 14%) from McKenzie Valley electric customers.

Discussion

As a follow up to the EWEB Board Meeting on June 16, 2020, Management is providing the following additional details and context related to McKenzie Valley electric distribution operations. This information is meant to supplement the COSA materials provided at the June meeting, which are included as Attachment B for reference.

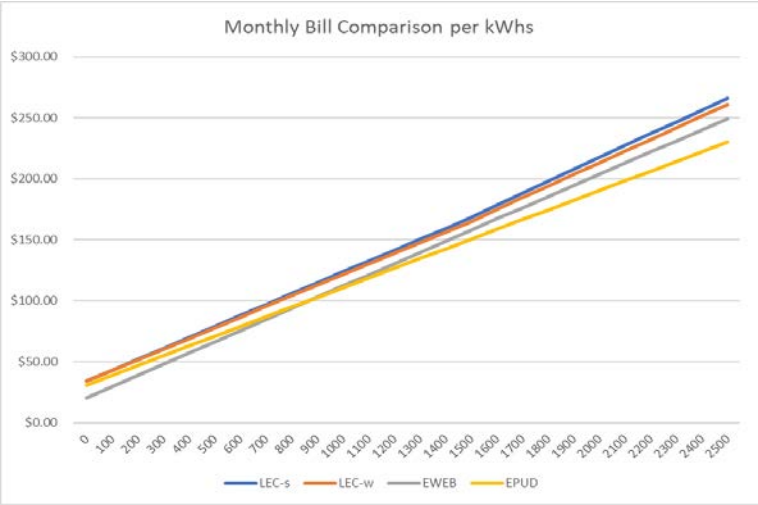
Local Rural Rate/Price Comparisons

Relevant to the distribution of electricity, EWEB's McKenzie Valley service territory is bordered by two mostly rural utilities including Lane Electric Cooperative (LEC) and Emerald People's Utility District (EPUD). The rates and prices are compared below.

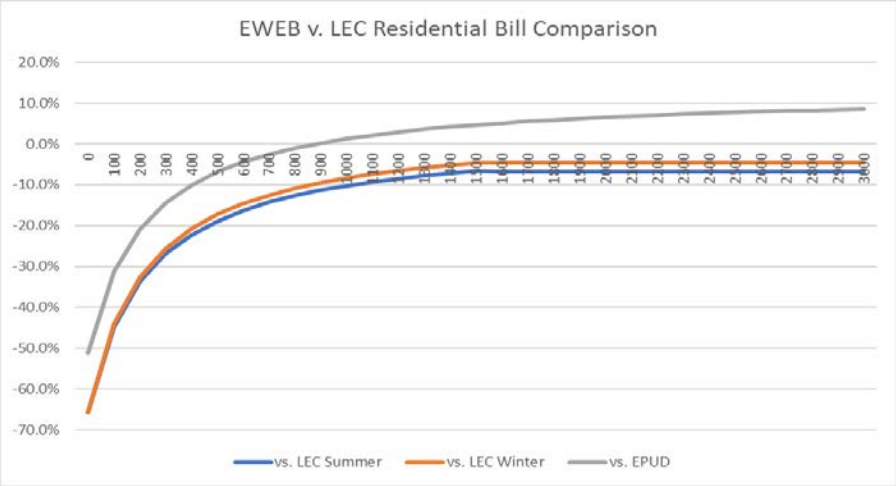
Table 1: Rate Comparison

Residential Electricity Rate(s) & Prices	**EWEB**	**Lane Electric**	**EPUD**
Basic Charge	$20.50	$34.00	$31.00
Delivery Charge	2.624¢/kWh	------	------
Energy Charge (0-1,500kWh)	6.524¢/kWh	8.74¢/kWh (Nov-Apr), 8.95¢/kWh (May-Oct)	7.960¢/kWh
Energy Charge (>1,500kWh)		9.57¢/kWh (Nov-Apr), 9.79¢/kWh (May-Oct)	
Monthly (1,600 kWh) Winter	$166.87	$174.67	$158.36
Monthly (1,600 kWh) Summer		$178.04	
Monthly (1,200 kWh) Winter	$130.28	$138.88	$126.52
Monthly (1,200 kWh) Summer		$141.40	
Monthly (800 kWh) Winter	$93.68	$103.92	$94.68
Monthly (800 kWh) Summer		$105.60	

When applying the rates listed in the above table, the monthly residential electricity charges, which vary with consumption, are as shown below for the three utilities.



The difference in monthly residential charges for electricity between EWEB and the other utilities highlights that EWEB's fixed charges are lower, resulting in more difference with low consumption as show in the graph below.



Rate Setting Policies & Principles

EWEB sets rates consistent with state and federal statutes, along with EWEB Board Policy SD9 Rate Setting Policy and SD10 Power Cost Recovery Policy. Additionally, EWEB developed a set of General Ratemaking Principles in 2013 as described in Attachment A of this memorandum, including the following:

- ***Sufficiency*** represents the principle that rates must be adequate to cover the cost of doing business.
- ***Affordability*** represents the principle that our basic products and services need to be affordable for the customers that we serve.
- ***Efficiency*** represents the principle that, all else equal, rates should be set, both in aggregate and across and within rate classes, to result in the most net gain to customers overall.
- ***Cost-Basis*** reflects the principle that rates generally should be cost based rather than value based, given the lack of competition for service provision.
- ***Equity*** represents the criteria used to manage undue discrimination.
- ***Gradualism*** reflects the notion that whenever possible, rate level and rate design changes should be implemented without creating dramatic shifts in cost and benefits to individuals or groups.

Rate Setting Actions

It is both legal and consistent with these policies and principles that EWEB create a McKenzie Valley electricity rate. Over the past several years, EWEB has taken steps to adhere to the intent of the General Ratemaking Principles, including the following recent adjustments pertaining to the "equity" principle. Also listed are a few additional opportunities for future assessments and potential development of rate(s) and/or adjustments, reflecting that rate design is an ongoing activity of EWEB.

Table 2: Examples of Ratemaking Adjustments

2010-2016	Increased Water Residential "Basic Charge" (annual increases)
2010-2016	Increased Electric Residential "Basic Charge" (annual increases)
2011-2016	Increased Pumping Charges for Consumption
2012, 2015	Increased Pumping Charges Per Meter
2015	Eliminated Energy Charge - Third Tier
2019	Eliminated Energy Charge Tiers
2015	Established Elevation SDC Charge <1" Meters (water)
2017	Established Partial Requirements Rate
2016	Eliminated 15-Year Distributed General Rate – Annual Cost Alignment/Volatility
2018	Updated Partial Requirements Rate – Cost Alignment
2019	Adjusted Customer Service Fees – Cost Alignment
2020	Adjusted Auxiliary Dwelling Unit (ADU) SDC Charge
Future?	Establish Upriver COSA-based Rate?
Future?	Adjust Basic Charge(s) – Continued Alignment with Fixed Costs?
Future?	Add Residential Demand/Peak Charges?
Future?	Continue to Assess/Adjust Cross-Class Demand/Energy
Future?	Establish Time-of-Use Credits or Charges/Cost and Carbon Intensity?
Future?	Establish Resource-Type-Specific Rates (Environmental Products)?
Future?	Add Metering Charges (Non-AMI)?
Future?	Evaluate/Establish Downtown Network Rate?

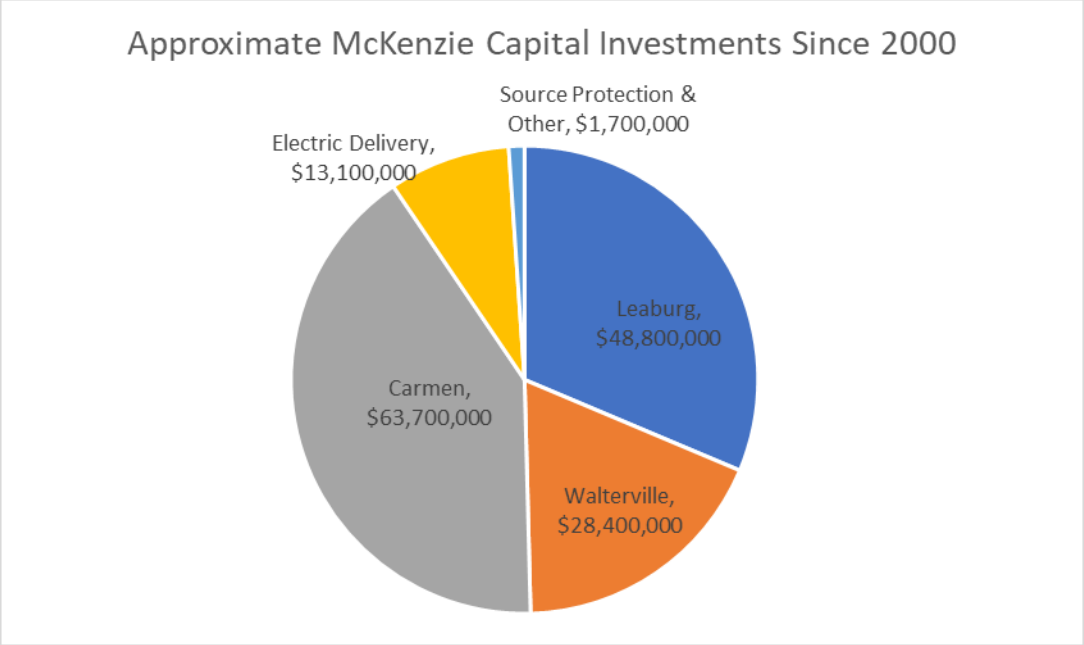
Energy Efficiency and Program Participation

Although the McKenzie Valley represents 3.1% of EWEBs residential customers, since 2010 EWEB has provided 695 energy efficiency visits, incentives, and loans to residential customers in the McKenzie Valley, saving approximately 1,400 MWhs annually, which represents 4.0% of the total projects and 4.3% of EWEB's energy efficiency program savings. For these projects, EWEB has provided $431,000 in incentives and $612,000 in loans as funding sources.

Additionally, since 2010 EWEB has provided customer care bill assistance to 384 unique customers and LIHEAP (Federal) has provided bill assistance to 245 unique customers, 1.7% and 2.2% of the total customers helped respectively. Twenty-two (22) solar incentives, 3% of the total, have been provided to McKenzie Valley customers, and since its inception in 2019 seven (7) customers have received generator loans.

McKenzie Valley Investments

Since 2000, EWEB has made capital investments in the McKenzie Valley totaling more than $150 million, including investments associated with two hydroelectric licenses (Leaburg/Walterville & Carmen-Smith), source protection, and electric delivery infrastructure. Only the investments associated with the generation or delivery of electricity are including in the electric rates basis, presently distributed between all electricity customers. Below is a rough compilation of capital investment types made in the McKenzie Valley by EWEB customer-owners. In addition, EWEB has invested over $15 million in non-capital operations and maintenance programs (~$2 million grant funded) specific to watershed and source protection, which is not included in electricity rates.



Recommendation

Management recommends establishing a McKenzie Valley electricity rate(s), consistent with EWEB's General Ratemaking Principles and recent trend of equity adjustments including potential gradualism (slowing aligning McKenzie Valley pricing with cost). Other principles, including gradualism, may also be part of any ratemaking decisions specific to the McKenzie Valley.

Requested Board Action

In order to facilitate conversation and clarify direction, Management is seeking Board direction on further information needed prior to public input on the inclusion of a McKenzie Valley electricity rate(s) in the November Rate Proposal.

General Ratemaking Principles

Sufficiency represents the principle that rates must be adequate to cover the cost of doing business. To not do so, not only jeopardizes the solvency of EWEB but creates an unfair burden on its utility ratepayers. Sufficiency can be measured both by assessing average cost and marginal cost. It is also a factor in the discussion of fixed cost recovery.

Affordability represents the principle that our basic products and services need to be affordable for the customers that we serve. All investment decisions and the subsequent impacts on overall utility revenue requirement need to be assessed through this lens. Up until the late 1970s, electricity was a declining real cost commodity, but that trend has changed and increasing costs can now take an increasing share of the customers' disposable income. In more recent years, water rates have also begun increasing across the nation, and at EWEB, due to a combination of replacement of aging infrastructure and reduced demand.

Efficiency represents the principle that, all else equal, rates should be set, both in aggregate and across and within rate classes, to result in the most net gain to customers overall. In other words, to minimize inefficiencies correctable through price signals. Efficient price signals help encourage rational usage and conservation. Employing appropriate cost recovery design principles for fixed cost components of service are another efficient pricing mechanism that promotes Efficiency and also helps to ensure Sufficiency.

Cost-Basis reflects the principle that rates generally should be cost based rather than value based, given the lack of competition for service provision. It also suggests that cost causation should be applied within and across rate classes. This is sometimes referred to as the “user pays” principle. It is often cited as a rationale for limiting non-policy based class subsidies. Cost based rates generally enhance product affordability. In some cases, such as the wholesale power market, sufficient competition has emerged along with more mature market structures and effective regulation such that market-based principles for pricing have largely replaced traditional cost-based principles. This approach is only effective when there is adequate competition to allow for an equilibrium price that is at or near cost-basis.

Equity represents the criteria used to manage undue discrimination. Since equity itself is a normative concept, it is probably the principle most subject to social values based interpretation. Some may measure Equity as Cost-Basis, others through ability to pay, or other social objectives. EWEB strives to reflect a balance of both in its application of the Equity principle. Equity concerns beyond Cost-Basis often spark conversations of subsidy.

Subsidization at some level is virtually impossible to remediate completely since customers with different load profiles are inevitably grouped together with similar, but not same, customers for which a given rate or tariff applies. In this way, the average cost of service varies for customers within the same rate class. Ratemaking principles aim to identify reasonable distinctions where possible and significant, in order to strike a balance between administrative overhead (Efficiency), Cost-basis, and Equity.

Gradualism reflects the notion that whenever possible, rate level and rate design changes should be implemented without creating dramatic shifts in cost and benefits to individuals or groups. This is often referred to as rate stability. It is a principle that EWEB recommends primarily as a tool to minimize impacts on customers as rate adequacy and rate design objectives are pursued. The result is that changes to rate design, or overall rate level, can be done incrementally over time to avoid rate shock to individual customers or groups of customers.

MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

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TO:	Commissioners Mital, Schlossberg, Helgeson, Brown, and Carlson
FROM:	Deborah Hart, CFO; Adam Rue, Fiscal Services Supervisor; and Alicia Voorhees, Senior Financial Analyst
DATE:	June 16, 2020
SUBJECT:	Electric Cost of Service Analysis for Upriver Service Territory
OBJECTIVE:	Provide General Direction

Issue

EWEB provides electric services to the City of Eugene and adjacent areas, as well as areas 30 miles outside of Eugene along the McKenzie River, between the cities of Walterville and Vida (Upriver). These two service territories are not physically contiguous and likely result in a cost difference to service. Commissioners requested that Management prepare a cost of service analysis to assess an electrical pricing rate for the Upriver Service Territory.

Background

EWEB prices electric service differently for different customer classes based on customer size thresholds and demand characteristics using an industry standard Cost of Service Analysis (COSA) methodology. The allocation of costs among customer rate classes, and recovery within classes by different billing components (e.g., basic, energy, and demand charges), is informed by the COSA. EWEB engaged EES Consulting in 2015 to develop its current COSA model.

In May 2019, the Board directed Management to analyze the cost to serve the Upriver portion of the EWEB electric service territory. In October 2019, Management presented to the Board a high-level evaluation of EWEB's cost of service for Upriver customers relative to the overall customer base. That evaluation indicated a cost differential of approximately 10-15%. The higher cost for Upriver customers was primarily due to a higher level of plant investment to support the rural customer base. Based on the results of the internal assessment and direction from the Board, staff engaged a consulting firm to modify EWEB's cost of service model to formally incorporate the different customer classes for the Upriver customers.

EES was contracted to update the COSA model to incorporate the Upriver customer class and complete the modifications based on 2020 budgeted costs and customer attributes.

Discussion

Two key interrelated issues emerged in the process of establishing an Upriver COSA: First, was the legal defensibility of establishing the customer class separate of the customers within the city limits. Staff engaged external counsel for a legal opinion. Second, there was a cost basis differential between the proposed and existing customer rate class. EES was engaged for this work.

Legal Opinion on Upriver Service Territory Pricing

Municipal utilities have broad discretion to set rates and establish rate classes, as long as customers are not charged different rates for like services. In order to avoid a claim of discriminatory rate treatment, EWEB must show the rational basis for establishing a separate customer class. However, EWEB may establish a separate rate classification based on finding that the cost to service customers in the Upriver service area are greater than the cost to service the rest of the service territory.

The legal analysis was based on a few key elements: 1) Municipal utilities have broad authority to establish reasonable and nondiscriminatory rate classifications; 2) Rate classifications based solely on political and geographic area are not lawful; and 3) Municipal utilities may establish rate classifications based on different operational costs for customers in different geographic locations. The conclusion of the legal analysis is that potentially there could be legal challenges of discriminatory rates to geographic location to the extent the rates are based only on political and geographic areas, but to the extent they are based on a material cost differential, there is a broad authority for municipal utilities.

COSA Methodology Review

Three new customer classes were created specifically for Upriver customers: Upriver Residential, Upriver Small Commercial, and Upriver Medium Commercial. The cost allocation to the Upriver customer base was established on an allocation of both direct and indirect costs. The indirect costs were allocated to the Upriver customer base using the industry standard COSA methodology.

Cost Differential Findings

The results indicate a revenue shortfall of 14%, or approximately $700,000, for the Upriver Residential customer class based on higher cost to serve and differences in load. Upriver customers represent approximately 3% of total customer base with slightly higher than average usage. The higher costs for Upriver service are generally costs recovered in the delivery charge. The delivery charge is billed on a per kilowatt hour basis. Therefore, different consumption levels are impacted differently. The bill impact of the cost differential associated with the Upriver analysis would correspond with a rate reduction of less than 0.5% for in town customers.

Requested Board Action
Management is seeking Board direction on implementation of Upriver Cost of Service results in the November Rate Proposal.

Attachment 1 – EES Memo on Upriver Service Territory Electric Pricing

EES Consulting
a GDS Associates Company

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June 4, 2020

TO: Adam Rue and Alicia Voorhees

FROM: Amber Nyquist

SUBJECT: Upriver Service Territory Electric Pricing

CC: Connor Birkeland

Purpose

EWEB requested EES develop a unique electrical pricing rate for EWEB customers in the Upriver Service Territory. This memo describes the data assumptions and methodology used to create three new customer classes for the Upriver service area: Upriver Residential, Upriver Small General Service, and Upriver Medium General Service.

Overview of COSA Update

EWEB originally engaged EES to develop its cost of service model in 2015. At that time EES incorporated EWEB's customer classes, cost structure, and load profiles into the EWEB Cost of Service model, developed by EES. The analysis used the available load factors, demand, and energy usage by class to allocate EWEB's revenue requirement among the different rate classes.

An area that wasn't addressed in the prior COSA was the addition of new customer classes. A utility may define a new customer class when the cost to serve, or usage profile, for a group of customers differs significantly from other customers. EWEB engaged EES to incorporate the Upriver Service Territory into its COSA model to facilitate the fair and equitable costs to these customers separately, and to develop rate proposals for the new customer classes.

What Constitutes a Rate Class?

A rate class is generally defined by class of service (usage type, load profile information, or grandfathering rates). The cost to serve a customer is inherent in rate class definition. A utility may define a new customer class when the cost to serve, or usage profile, for a group of customers differs significantly from other customers. Examples for situations that may warrant a new rate class include:

- Usage profile changes within current classes or for new customer classes (load factors, load size, average use).
- Regulatory obligations such as net energy metering thresholds.
- Large difference in the marginal cost to serve a new customer (new large loads).
- Jurisdictional or taxing boundaries that influence cost to serve via taxes or other programs. Boundaries such as county, city, or state are often observed in electric utilities.

- Geographical boundaries creating a difference in the cost to serve customers located in different regions. For example, customers on the mainland will have a lower cost to serve than similar customers located on an island served by a submarine cable.
- Utility incentives offered through rate class self-selection such as time of use, critical peak pricing, or demand response, electric vehicle charging, economic development, fuel type (i.e. all electric), or others.

In this case, EWEB wants to know if the geographical boundary distinguishing Upriver customers from in-town counter parts is cause for different rates. In order to determine if a new rate class is warranted, customers are separated and evaluated in a cost of service analysis.

Revenue Requirement Results

Revenue requirement analysis compares the overall utility revenues to its expenses to determine if an overall rate adjustment it required. In 2020, the projected revenue requirement analysis did not require an overall rate adjustment. The following assumptions were used in the base case assumption.

- 2020 Board approved budget for operating expenses and capital costs
- Forecasted 2020 sales and revenue projections by class

A summary of the draft revenue requirement is shown below.

Table 1 Summary of the Revenue Requirement CY: 2020	
Revenues	
Present Rate Revenues	$215,132,661
Other Income (REC sales and misc.)	50,400,029
Total Revenues	**$265,532,690**
Expenses	
Generation	$140,010,801
Transmission	19,193,902
Distribution	19,600,731
Depreciation	-523,340
Taxes	12,443,550
Interest and Debt Service	15,186,939
Return	27,239,205
Other Contributions	-116,556
Total Expenses	**$265,770,128**
Surplus (Deficiency) in Funds	($237,438)
Total Required Revenue Increase (Decrease)	0.09%
Present Rate Revenues	$215,132,661
Rev Req (Expenses less Other Income)	$215,370,099
Surplus (Deficiency) in Funds	($237,438)
Required Retail Rate Increase (Decrease)	0.11%

Cost of Service Study

A COSA study is used to equitably allocate the revenue requirement among the various customer classes. The industry standard process for allocating costs in a COSA study is to functionalize, classify and allocate costs to the different customer classes.

Functionalization separates costs into major categories that reflect the utility's plant investment and different services provided to customers. The primary functional categories are production, transmission, distribution, and general.

Classification determines the portion of the cost that is related to specific cost-causal factors, such as those that are demand-related, energy-related, or customer-related. Production costs are related to supplying and transporting power to customers on the system. Transmission costs are related to the bulk transfer of power throughout the system, which is designed to meet the peak demand requirement. The distribution system is designed to extend service to all customers attached to the system and to meet the peak load capacity requirement of each customer. Additionally, costs can be classified based on system revenues or directly assigned to a customer or group of customers.

Allocation of costs to specific customer classes is based on the customer's contribution to the specific classifier selected. For instance, demand-related costs are allocated to a customer group using that customer group's contribution to the particular measurement of system demand, whether coincident peak, non-coincident peak or some variation determined to be appropriate for the particular cost item. An analysis of unique customer requirements, loads, and usage characteristics is completed to develop allocation factors reflecting each of the classifiers employed within the COSA. The analysis may include an evaluation of the system design and operations, its accounting and physical asset records, customer load data, and special studies.

A COSA study can be performed using embedded costs or marginal costs. Embedded costs generally reflect the actual costs incurred by the utility and closely track the costs kept in its accounting records. Alternatively, marginal costs reflect the cost associated with adding a new customer and are based on costs of facilities and services if incurred at the present time. While marginal costs can be valuable for designing rates in some cases (such as new large customers), marginal costs can be higher or lower than embedded costs. Therefore, the use of a marginal COSA study would require that all costs be adjusted to a level equal to the revenue requirement. The EWEB study uses an embedded COSA as its standard methodology.

Distribution Cost Allocation Methodologies

Most distribution costs are split between demand and customer components. The demand component is the cost of facilities built to serve a particular load, such as distribution substations. The customer component is the cost of facilities that varies with the number of customers, such as meters. Generally there are two methodologies that can be used to classify distribution costs: 100 percent demand and minimum system. The 100 percent demand methodology assumes that the distribution system is built to meet the non-coincident peak. Therefore, distribution costs using this method are classified as 100 percent demand-related.

Under the minimum system approach, specific distribution costs are split between demand and customer. This approach reflects the philosophy that the system is in place in part because there are

customers to serve throughout the service territory expanse, and that a minimally sized distribution system is needed to serve these customers even if they only use 1 kWh of energy per year. The concept follows that any costs associated with a system larger than this minimal size are due to the fact that customers "demand" a delivery quantity greater than the minimum unit of electricity and that therefore, those costs should be treated as demand related.

Because the residential class tends to have a higher share of the number of customers as compared to the share of non-coincident peak, the minimum system methodology tends to allocate more costs to the residential class and customer charges tend to be higher than with the 100 percent demand methodology.

EWEB has historically adopted a minimum system approach to cost allocation. This methodology places more cost in the customer charge compared with the 100% demand approach which places more of the cost in demand rates (or energy for customers who are not demand-metered). The Upriver Analysis assumes a minimum system approach.

Upriver COSA Analysis

The draft COSA utilized the data provided by EWEB staff in order to create upriver customer classes and costs for allocation to those classes.

- *EWEB Current Assets as of December 31, 2019*
- *Upriver customer billed revenue*
- *Upriver customer billed energy*
- *Tree trimming costs for Upriver Service Area*
- *Upriver Line Loss Data*

EES created three new customer classes specifically for Upriver customers: Upriver Residential, Upriver Small Commercial, and Upriver Medium Commercial. Billing determinants for these classes were estimated based on the billed revenue file and average rate class usage information. Upriver customers were also removed from the balance of EWEB customer classes. Revenues from each class are calculated using current rate schedules by class.

For ease of analysis, EES combined some of the rate classes present in the *EWEB Upriver customer billed revenue data* as follows:

- *Residential Green* + *Residential* = Residential
- *Small General Service Green* + *Small General Service* = Small General Service
- *Medium Green + Medium General Service* = Medium General Service

Upriver *Private Lighting* or *Miscellaneous* rate classes are not included in the analysis. Additional information would be needed in order to separate these Upriver customer characteristics from EWEB's broader customer base.

Cost Allocation

EWEB was able to identify and extract data related to vegetation management and meter reading costs specific to Upriver customers. These direct costs were added to the EWEB revenue requirement and subtracted from the appropriate existing line item. These costs were then directly assigned to Upriver

customers based on customers and meters weighted for meter reading. The remaining meter reading expenses for the rest of the EWEB system were allocated to all other customers.

Costs that could not be extracted and specifically attributed to the Upriver customers were allocated to the Upriver customer base using the load profiles and customer attributes in a manner consistent with other classes and the industry standard COSA methodology.

Results

Table 2 shows the results of the analysis using the Minimum System approach.

Table 2
Minimum System Methodology

Forecast Year: 2020	Residential	Small General Service	Medium General Service	Upriver Residential	Upriver Small General Service	Upriver Medium General Service
Revenues - Present Rate	$100,616,483	$19,656,013	$43,699,037	$5,178,325	$176,785	$280,244
Less Allocated Revenue Requirement	$99,245,527	$19,060,732	$44,642,829	$5,878,305	$231,901	$324,487
Difference	$1,370,955	$595,281	-$943,792	-$699,979	-$55,117	-$44,243
% Increase Retail Rates to Equal Allocated Cost	**-1.36%**	**-3.03%**	**2.16%**	**14%**	**31%**	**16%**
Unit Cost: Present Rates ($/kWh)	$0.1146	$0.1118	$0.089	$0.104	$0.154	$0.100
COSA Rates ($/kWh)	$0.1130	$0.1107	$0.0906	$0.118	$0.206	$0.115
Average Monthly Use, kWh	894	1,856	22,713	1,597	698	11,893

The above results show that Upriver customers have a revenue shortfall of 14%. The shortfall is due to a 5% higher cost to serve, or $0.0054/kWh, compared with in-town counter parts, as well as a lower average rate collection of $0.104/kWh versus $0.1146/kWh for in-town. The primary driver for the higher cost to serve is the additional cost for vegetation management in the Upriver service area. Because these costs were extracted based on EWEB's records, there is a high level of confidence in the results. Due to the rural and wooded nature of the Upriver service area, these customers have a higher cost of service based on industry practices for cost allocation.

In order to test the sensitivity of the results, vegetation management costs were adjusted upward for Upriver customers. If vegetation management costs were to increase by 20%, the additional cost to serve Upriver residential customers would increase from 5% to 8% compared with in-town residential customers.

Summary of Findings

Upriver customers contribute 2.6% of the EWEB total rate revenue and were allocated 3% ($6.4 million) of the total annual revenue requirement. The total under collection from these customers is 0.4% ($0.8 million) of the total annual revenue requirement of $215 million.