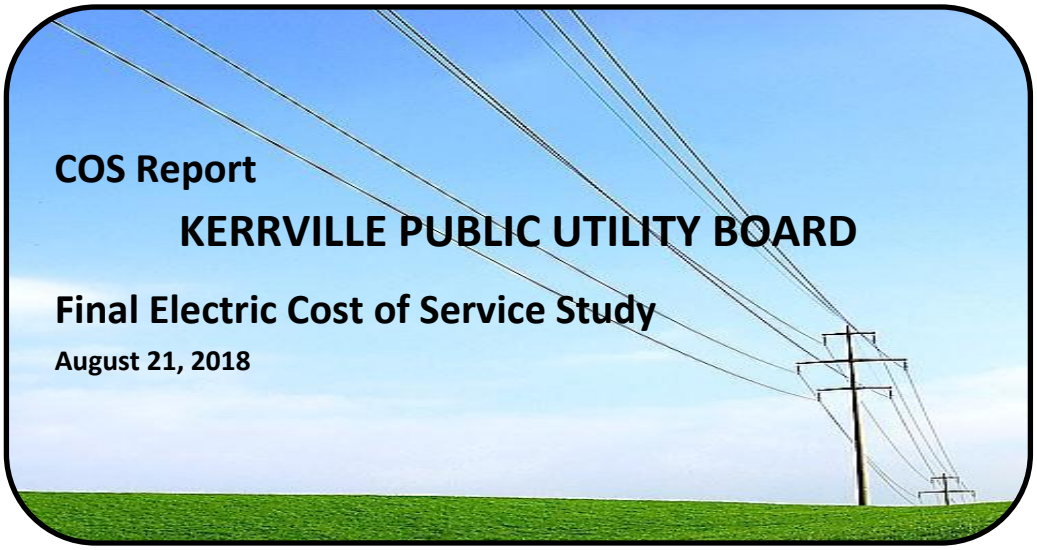

COS Report

KERRVILLE PUBLIC UTILITY BOARD

Final Electric Cost of Service Study

August 21, 2018

Utility Financial Solutions, LLC

Specializing in Cost of Service,
Rate Design, and Financial Analysis

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Utility Financial Solutions, LLC

January 10, 2018

Mr. Mike Wittler
General Manager & CEO
Kerrville Public Utility Board
2250 Memorial Blvd.
Kerrville, TX 78028

Dear Mr. Wittler:

We are pleased to present this executive summary report for an electric cost of service, financial projection and rate design study for Kerrville Public Utility Board (KPUB). This report was prepared to provide KPUB with a comprehensive examination of its existing rate structure by an outside party.

The specific purposes of this cost of service rate study are:

1) Determine electric utility's revenue requirements for 2018
2) Identify cross-subsidies that may exist between rate classes
3) Identify the appropriate monthly customer charge for each customer class
4) Develop retail rates to be implemented in 2019

This report includes results of the electric cost of service and unbundling study and recommendations on future rate designs. Specific recommendations included in this report are:

1) Rate adjustments that are based the utilities ability to meet three factors listed below:
    - Debt Coverage Ratio
    - Minimum Cash Reserves
    - Optimal Net Income
2) Rate adjustments that are designed to provide the overall recommendation and within a bandwidth for each customer class based on the cost of service study completed by Utility Financial Solutions (UFS).
    - Recommend rates be designed to provide the Board's recommended rate adjustment within a bandwidth for each customer class based on cost of service results.
    - Recommend monthly customer charge variances between cost of service and actual be addressed in the proposed 2019 rates.

This report is intended for information and use by management for purposes stated above and is not intended to be used by anyone except the specified parties.

Sincerely,

Dawn Lund

Utility Financial Solutions, LLC
Dawn Lund
Vice-President

Utility Financial Solutions, LLC

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Introduction

This report was prepared to provide Kerrville Public Utility Board (KPUB) with an electric cost of service study and a comprehensive examination of its existing rate structure by an outside party. The specific purposes of the rate study are identified below:

1) ***Determine electric utility's revenue requirements for 2018 (Rate implementation 2019)***. The Electric Utility's revenue requirements were projected for the period from 2018 – 2022 and included adjustments for the following:
    a. Anticipated power costs
    b. Anticipated annual sales growth
    c. Five-year capital improvement plan

2) ***Identify cross-subsidies that may exist between rate classes.*** Cross-subsidies exist when certain customer classes subsidize the electric costs of other customers. The rate study identifies if cross-subsidies exist and practical ways to reduce the subsidies. The cost of service study was completed using 2018 projected revenues and expenses. The financial projections are for the period from 2018 – 2022.

3) ***Recommend rate adjustments needed to meet targeted revenue requirements.*** The primary purpose of this rate study is to identify appropriate revenue requirements and the rate adjustments needed to meet targeted revenue requirements. The report includes a long-term rate track for KPUB to help ensure the financial stability of the utility in future years.

4) ***Unbundled electric rates.*** The cost of providing electricity to customers consists of a number of components, including power supply, distribution, customer services, and transmission. Electric unbundling identifies the cost of each component to assist the utility in preparing for electric restructuring, understanding its cost structure and developing special rate forms for customers such as net metering rates, standby rates, and time of use rates.

5) ***Identify the appropriate monthly customer charge for each customer class.*** The monthly customer charge consists of fixed costs to service customers that do not vary based on the amount of electricity used.

KPUB retained Utility Financial Solutions (UFS) to review the above items and make recommendations on the appropriate course of action. This report includes results of the electric cost of service and unbundling study, recommendations on future rate designs and potential rate structures for customers to help lower power supply costs and customer bills.

Cost of Service Summary Results

The completed cost of service study will determine costs of providing service to each class of customer and help assist in design of electric rates for customers. The cost of service study consists of the following general steps:

1) Determine utility revenue requirements for 2018 using KPUB 2016, YTD 2017 and Budget 2018
2) Classify utility expenses into common cost pools
3) Allocate costs to customer classes based on the classes' contribution to utility expenses
4) Compare revenues received from each class to the cost of service

Table One below is a cost of service summary which compares projected costs to serve each customer class with projected revenues expected from each customer class. The "% change" column is an adjustment that is necessary to meet projected cost of service requirements.

Table One – Cost of Service Summary – Without Rate Adjustments

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	$ 23,360,415	$ 22,776,298	3%
Outdoor Area Lighting	219,649	218,468	1%
Street Lighting	291,114	286,336	2%
Commercial Service	14,955,051	14,847,944	1%
Large Commercial Service Primary	544,238	553,746	-2%
Large Commercial Service Secondary	1,035,490	1,012,998	2%
Contract Secondary	2,234,939	2,038,832	10%
Contract Primary	378,218	355,270	6%
Total	**$ 43,019,115**	**$ 42,089,892**	**2.2%**

The study indicates an overall 2.2% adjustment from current rates to meet revenue requirements. The actual recommended adjustment and rate track is discussed on page 19.

Utility Revenue Requirements

Revenue requirements for KPUB were projected for 2017 based on 2016 actual expenses with adjustments made for known changes. Revenues for 2018 were analyzed with adjustments made to actual to reflect projected operating characteristics. Detailed descriptions of the methodology are included in the section "Summary of Significant Assumptions". The table below is a summary of the financial projection based on the following assumptions:

1. Capital improvement plan was provided by KPUB
2. Power Supply projected annual increases provided by KPUB
3. General Inflation rate of 2.6% on expenses
4. Growth 0% 2018-2022

KPUB is projected to have an operating income of $1.6 million in 2018 and decreases to an operating loss of $(214,102) in 2022 without rate adjustments.

Table Two – Projected Financial Statements – Without Rate Adjustments

Fiscal Year	Projected Rate Adjustments	Projected Revenues	Projected Expenses	City Transfer (%)	City Transfer $	Adjusted Operating Income	Projected Cash Balances	Restricted Funds	Total Cash	Capital Improvements	Bond Issues	Debt Coverage Ratio
2017	0.00%	38,686,111	37,658,063	3.0%	1,002,332	1,028,048	13,540,439	7,386,792	20,927,231	6,151,650		9.98
2018	0.00%	42,640,076	40,986,578	3.0%	1,144,078	1,653,497	7,534,055	7,386,792	14,920,847	10,728,295	-	12.06
2019	0.00%	43,399,211	42,375,780	3.0%	1,262,697	1,023,431	6,591,501	7,386,792	13,978,293	5,325,210	-	11.64
2020	0.00%	44,178,083	43,582,926	3.0%	1,285,471	595,157	6,633,023	7,386,792	14,019,815	5,183,414	-	11.25
2021	0.00%	44,977,207	44,800,233	3.0%	1,308,837	176,974	7,070,924	7,386,792	14,457,716	4,537,150	-	10.82
2022	0.00%	45,797,107	46,011,209	3.0%	1,332,811	(214,102)	8,255,441	7,386,792	15,642,233	3,537,150	-	10.38
Recommended Target in 2018						$ 2,582,720	$ 11,873,520					1.65
Recommended Target in 2022						$ 2,822,706	$ 12,470,290					1.65

1. Financial projections should be updated during the yearly budget process.
2. Cash balances include current cash and investments; the utility also holds $7.3 million in restricted reserves.
3. Capital plan for this base scenario includes the AMI Capital Plan.
4. Additional assumptions were used in developing the financial projections. Please see summary of significant assumptions on page 17.

DEVELOPMENT OF RECOMMENDED RATE TRACK:

When evaluating rates to charge customers, three factors must be considered:

1. Debt Coverage Ratio
2. Minimum Cash Reserves
3. Optimal Net Income

Each of these factors is discussed below:

1. **Debt Coverage Ratio** - Debt coverage ratios that are mandated by covenants established in the bond ordinance must be maintained to ensure KPUB maintains its bond rating and has the capacity to issue additional revenue bonds in the future if necessary. Typical bond coverage ratios require that cash generated from operations exceed 1.2 times the debt payments. The Utility should maintain a minimum coverage ratio of 1.2. Due to fluctuations in sales, mainly the result of weather, a safety factor is recommended to help ensure coverage ratios are met during low sales years. KPUB has an established target of 1.65 for financial projection purposes. This becomes the minimum target and rates must be established to meet the debt coverage ratio requirement.

   Table Three below contains projected debt coverage ratios from 2018–2022.

Table Three – Debt Ratio Coverage

Debt Coverage Ratio	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Add Net Income	$ 1,803,278	$ 1,148,953	$ 723,062	$ 308,154	$ (76,225)
Add Depreciation Expense	3,297,633	3,618,703	3,828,875	4,023,287	4,184,773
Add Interest Expense	151,316	145,543	138,448	130,055	120,325
Add Transfer to City	1,144,078	1,262,697	1,285,471	1,308,837	1,332,811
Cash Available for Debt Service	$ 6,396,305	$ 6,175,896	$ 5,975,856	$ 5,770,333	$ 5,561,683
Debt Principal and Interest	$ 530,316	$ 530,543	$ 530,448	$ 531,055	$ 531,325
Projected Debt Coverage Ratio (Covenants)	12.06	11.64	11.27	10.87	10.47
Minimum Debt Coverage Ratio	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**

Debt Ratios are sufficient throughout the projection and no debt issuances are projected.

2) Minimum Cash Reserve Target -

Minimum cash reserves attempt to quantify the minimum amount of cash the utility should keep in reserve, actual cash reserves may vary substantially above the minimum and is dependent on the life cycle of assets that are currently in service. The methodology used in this report and adopted by KPUB is based on certain assumptions related to percent of operation and maintenance, rate base, capital improvements, and debt service. The establishment of minimum cash reserves should consider a number factors including:

- **Working Capital Lag** - Timing differences between when expenses are incurred, and revenues received from customers. Establishing a minimum cash reserve helps to ensure cash exists to pay expenses in a timely manner.
- **Investment in assets** – Catastrophic events may occur that require substantial amounts of cash reserves to replace damaged assets. Some examples of catastrophic events include ice storms, earthquakes, wind storms, floods, or tornadoes. Many of these catastrophic events may allow the utility to recover the cost of damages from FEMA; however, FEMA reimbursements can take between 6 months to 2 years to recover. The utility should ensure adequate cash reserves exist to replace the assets in a timely fashion. The minimum reserve levels are often combined with emergency funding from banks or bonding agencies.
- **Annual debt service** – Debt service payments do not occur evenly throughout the year and often occurs at periodic times typically every six months. The utility has to ensure adequate cash reserves exist to fund the debt service payment when the payment is due.
- **Capital improvement program** – Some capital improvements are funded through bond issuances and some through cash reserves. The establishment of a minimum cash reserve level helps to ensure timely replacement or construction of assets.

The minimum recommended cash reserve for KPUB is around $12 million. The projected cash balance (without restricted reserves) is below the minimum throughout the projection period. Table Four provides the minimum cash reserve calculation.

Table Four – Minimum Cash Reserves

	Percent Allocated	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Operation & Maintenance Less Depreciation Expense	12%	$ 1,044,447	$ 1,082,454	$ 1,109,280	$ 1,136,804	$ 1,165,044
Power Costs	12%	3,591,293	3,684,667	3,780,468	3,878,760	3,979,608
Historical Rate Base	1%	844,992	790,962	896,827	836,333	932,198
Current Portion of Debt Service Payment	100%	530,543	530,448	531,055	531,325	531,197
Five Year Capital Improvements - Net of bond proceeds	20%	5,862,244	5,862,244	5,862,244	5,862,244	5,862,244
Minimum Recommended Cash Reserve		**$ 11,873,520**	**$ 11,950,774**	**$ 12,179,874**	**$ 12,245,466**	**$ 12,470,290**
Projected Cash Reserves		**$ 7,534,055**	**$ 6,591,501**	**$ 5,568,024**	**$ 4,961,315**	**$ 5,121,713**

Cash reserves are below the minimum throughout the projection period.

Notes:

1. Operation & Maintenance expenses exclude power supply and depreciation expense
2. Power Costs is total power supply
3. Historical Rate base is historical investment in plant and equipment
4. Current Portion of Debt Service Payment is the principal and interest payment
5. Five Year CIP includes total sum of budgeted capital improvements for the next five years and excludes any capital improvements funded through debt issuances

3) **Optimal operating income targets** - The optimal target for setting rates is the establishment of a target operating income to help ensure the following:

   a. Funding interest expense and the inflationary increase on assets invested in the system
   b. Adequate rate of return on investment to help ensure current customers are paying their fair share of the use of the infrastructure and not deferring the charge to future generations.

As improvements are made to the system, the optimal operating income target will increase unless annual depreciation expense is greater than yearly capital improvements. The target established for 2018 is $2.6 million and increases slightly to $2.8 million by 2022.

Table Five - Optimal Operating Income Targets Compared to Projected

	Percent Allocated	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Outstanding Principal on Debt	3.4%	151,316	145,543	138,448	130,055	120,325
Contributed Capital Estimated	0.0%	-	-	-	-	-
System Equity	6.0%	2,431,404	2,556,894	2,661,686	2,716,578	2,702,381
Target Operating Income		**$ 2,582,720**	**$ 2,702,437**	**$ 2,800,134**	**$ 2,846,634**	**$ 2,822,706**
Projected Operating Income		**$ 1,653,497**	**$ 1,023,431**	**$ 595,157**	**$ 176,974**	**$ (214,102)**
Rate of Return in %		**5.7%**	**5.8%**	**5.8%**	**5.9%**	**5.9%**

Projected operating income is below targets throughout the period.

COST OF SERVICE RESULTS

Table Six below shows the average cost of service per kWh and compares that cost to the average revenue per kWh for each customer class.

Table Six - Average Cost per kWh compared with Average Revenue per kWh

	Average Cost per kWh	
Customer Class	Cost of Service	Current Charge per kWh
Residential	$ 0.0895	$ 0.0758
Outdoor Area Lighting	$ 0.1899	$ 0.1104
Street Lighting	$ 0.1899	$ 0.4027
Commercial Service	$ 0.0912	$ 0.0762
Large Commercial Service Primary	$ 0.0597	$ 0.0532
Large Commercial Service Secondary	$ 0.0677	$ 0.0608
Contract Secondary	$ 0.0691	$ 0.0570
Contract Primary	$ 0.0666	$ 0.0634

DISTRIBUTION RATES

Separation of distribution cost helps identify distribution charges for each customer class and the fixed monthly customer charge for customers and to ensure the utility recovers its operational costs. Distribution rates include separation of the following costs:

1) Operation and maintenance of distribution & transmission system
2) Contributions to City
3) Customer service
4) Customer accounting
5) Meter reading
6) Billing
7) Meter operation & maintenance
8) Administrative expenses

The distribution rates consist of two components:

1) Monthly customer charge to recover the costs of meter reading, billing, customer service, and a portion of maintenance and operations of the distribution system.
2) Distribution rate based on billing parameter, (KW or kWh) to recover the cost to operate and maintain the distribution system. The table below identifies the cost-based distribution rates for customer classes.

Distribution rates by customer are listed in Table Seven:

Table Seven– Distribution Rates by Customer Class

Customer Class	Monthly Customer Charge	Distribution Rate	Billing Basis	Contribution to City	Billing Basis
Residential	14.88	0.0134	kWh	0.0024	kWh
Outdoor Area Lighting	3.45	0.0134	kWh	0.0031	kWh
Street Lighting	9.51	0.1975	kWh	0.0112	kWh
Commercial Service	30.66	6.09	KW	0.76	KW
Large Commercial Service Primary	385.98	4.49	KW	0.93	KW
Large Commercial Service Secondary	497.33	4.50	KW	0.81	KW
Contract Secondary	166.27	4.17	KW	0.70	KW
Contract Primary	273.97	3.77	KW	0.65	KW

Delivery of electricity consists of many components that bring electricity from the power supply facilities to the communities and eventually into customer facilities. The facilities consist of four major components: transmission, distribution, customer-related services, and administration. Following are general descriptions of each of these facilities and the sub-breakdowns within each category.

Transmission

The transmission system is comprised of four types of subsystems that operate together:

1) Backbone and inter-tie transmission facilities are the network of high voltage facilities through which a utility's major production sources are integrated.
2) Generation set-up facilities are the substations through which power is transformed from a utility's generation voltages to its various transmission voltage
3) Sub-transmission plant consists of lower voltage facilities to transfer electric energy from convenient points on a utility's backbone system to its distribution system
4) Radial transmission facilities are those that are not networked with other transmission lines but are used to serve specific loads directly.

Operation of the transmission system also consists of providing certain services that ensure a stable supply of power. These services are typically referred to as ancillary services. The Federal Energy Regulatory Commission (FERC) has defined six ancillary service charges for the use of transmission facilities:

Ancillary Service Charges:
Regulation and Frequency Response Service
Energy Imbalance Charges
Operating Reserves Spinning
Operating Reserves Supplemental
Power losses from use of transmission system

Terminology of Cost of Service

FUNCTIONALIZATION – Cost data arranged by functional category (e.g. power supply, transmission, distribution

CLASSIFICATION – Assignment of functionalized costs to cost components (e.g. demand, energy and customer related).

ALLOCATION – Allocating classified costs to each class of service based on each class's contribution to that specific cost component.

DEMAND COSTS – Costs that vary with the maximum or peak usage. Measured in kilowatts (kW)

ENERGY COSTS – Costs that vary over an extended period of time. Measured in kilowatt-hours (kWh)

CUSTOMER COSTS – Costs that vary with the number of customers on the system, e.g. metering costs.

DIRECT ASSIGNMENT – Costs identified as belonging to a specific customer or group of customers.

Distribution System

The distribution facilities connect the customer with the transmission grid to provide the customer with access to the electrical power that has been generated and transmitted. The distribution plant includes substations, primary and secondary conductors, poles, and line transformers that are jointly used and in the public right-of-way.

Substations typically separate the distribution plant from the transmission system. The substation power transformer "steps down" the voltage to a level that is more practical to install on and under City streets.

Distribution system provides primary circuits with voltages between 12.47 kV and 4.16 kV. Secondary circuits are 480 volts and less.

Distribution Customer Types

Sub-transmission customers are served directly from the substation feeder and bypass both the secondary and primary distribution lines. The charges for this type of customer should reflect the cost of the substation and not include the cost of primary or secondary line charges.

Primary customers are typically referred to as customers who have purchased, owned, and maintained their own transformers that convert the voltage to the secondary voltage level. The rates for these customers should reflect the cost of substations and the cost of primary distribution lines and not include the cost of secondary line extensions.

Secondary customers have the services provided by the utilities directly into their facilities. The utility provides the customer with the transformer and the connection on the customers' facilities.

Customer-Related Services

Certain administrative-type services are necessary to ensure customers are provided service connections and disconnections in a timely manner and the facilities are in place to read meters and bill for customer usages. These services typically consist of the following components:

1) Customer Services – The cost of providing personnel to assist customers with questions and dispatch personnel to connect and disconnect meters.
2) Billing and Collections – The cost of billing and collections personnel, postage, and supplies.
3) Meter Reading – The cost of reading customers' meters.
4) Meter Operation and Maintenance – The cost of installing and maintaining customer meters.

Administrative Services

These costs are sometimes referred to as overhead costs and relate to functions that cannot be directly-attributed to any service. These costs are spread to the other services through an allocator such as labor, expenses, or total rate base. These costs may consist of Board Member expenses, property insurance, and wages for higher level management of the utility.

System Losses

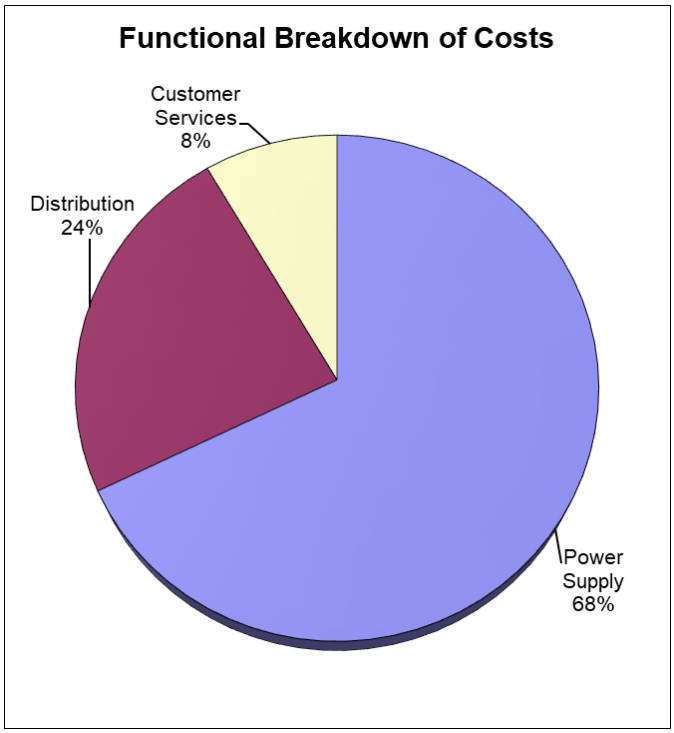
As energy moves through each component of the transmission and distribution system, some of the power is lost and cannot be sold to customers. Losses vary based on time of day and season. Typically, as system usage increases or ambient temperature increases, the percentages of losses that occur also increase. These losses are recovered from distribution customers through an analysis of the peak losses that occur in the system. The average system losses for KPUB are approximately 7.2%.

Unbundling Process

The cost of power supply, distribution, and customer services are identified as part of the unbundling process and are the first step in determining unbundled charges to customers. The total 2018 revenue requirements of $43.0 million are separated into three categories identified in the graph below.

Graph One – Breakdown of KPUB Cost Structure

Expense Type	Amount	Percent of Total
Power Supply	$ 29,197,504	67.9%
Distribution	10,156,106	23.6%
Customer Services	3,665,505	8.5%
Totals	**$ 43,019,115**	**100%**

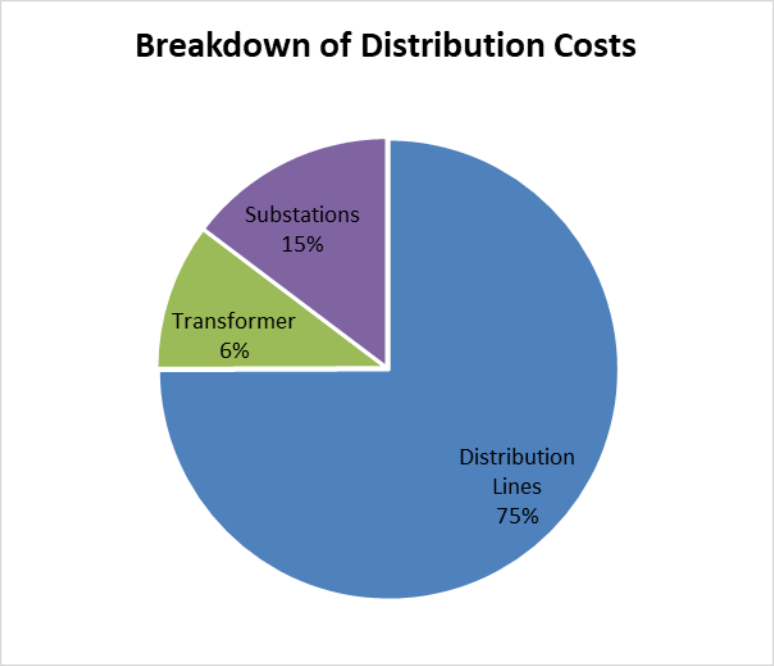


KPUB is projected to expend 68% of its total costs toward power supply from purchased power costs. Distribution-related costs are 24%, customer service amounts to 8%. These components are broken down into each of the subcomponents and are identified in the following sections.

Distribution Breakdown

As stated earlier, distribution rates consist of different components; total distribution-related costs of $10.2 million for 2018 are broken down into the main components listed below, substations, transformers, transmission, and distribution lines.

Graph Two – Breakdown of Distribution Costs

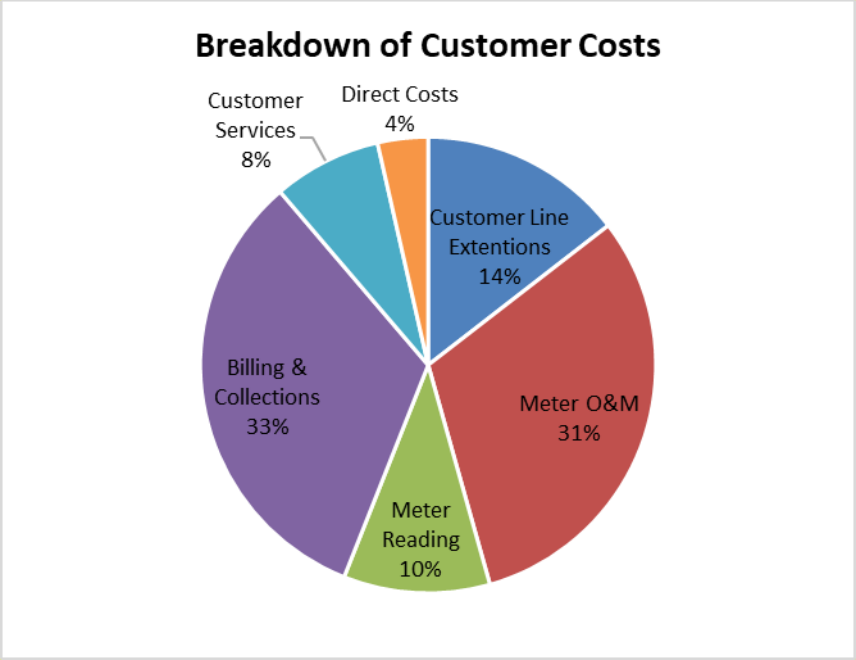


Each of these components are allocated to customer groups based on certain factors established in the study. These factors are based on the efficiency of each customer class and the time of day or the season the electricity is used. Other factors are also considered, such as the length of line extensions to reach certain customer classes. A complete list of allocators is included in the detailed section of this report.

Customer-Related Cost Breakdown

KPUB total expenses for customer-related costs are $3.7 million for 2018. The cost is broken down into the following components.

Graph Three – Breakdown of Customer Costs



Each cost is broken down by customer class and additional detail of the breakdown is included in the detailed analysis section of this report.

Power Supply Cost Breakdown

The table below identifies the average cost of providing power supply to customers of KPUB.

Table Eight - Power Supply Cost by Customer Class

	Summer		Winter	
Customer Class	Demand	Energy	Demand	Energy
Residential	0.0240	0.0335	0.0272	0.0357
Outdoor Area Lighting	-	0.0335	-	0.0358
Street Lighting	-	0.0335	-	0.0358
Commercial Service	10.09	0.0335	6.26	0.0359
Large Commercial Service Primary	9.34	0.0320	8.36	0.0346
Large Commercial Service Secondary	8.90	0.0335	7.97	0.0359
Contract Secondary	8.45	0.0335	7.62	0.0358
Contract Primary	7.80	0.0320	7.28	0.0347

Combined Cost Summary

The table below identifies the cost of service rates for each customer class. Charging these rates would directly match the cost of providing service to customers identified in this study; and are not recommended to be fully implemented in the first year. The study showed the Customer Charges need to be increased significantly in all classes. For example, the residential class identified a $14.88 monthly customer charge compared to the current charge of $5.26. Any future rate designs should be designed to moved slowly over time to work towards the cost to serve rate. The actual rate design will vary based on impacts to customers.

Table Nine – Total Costs by Customer Class

			Power Supply	
Customer Class	Customer Charge	Distribution Charges	Demand - kW	Energy - kWh's
Residential	14.88	0.0158		0.0609
Outdoor Area Lighting	3.45	0.0165		0.0350
Street Lighting	9.51	0.2087		0.0351
Commercial Service	30.66	6.85	7.62	0.0350
Large Commercial Service Primary	385.98	5.42	8.73	0.0336
Large Commercial Service Secondary	497.33	5.31	8.29	0.0350
Contract Secondary	166.27	4.87	7.91	0.0350
Contract Primary	273.97	4.42	7.48	0.0336

Significant Assumptions

This section outlines the procedures used to develop the cost of service and unbundling study for KPUB and the related significant assumptions.

Forecasted Operating Expenses

Forecasted expenses were based on actual 2016, YTD 2017 and Budget 2018. The table below is a summary of the expenses used in the analysis.

Actual and Projected Operating Expenses for 2016 – 2022

	Actual 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Expenses							
Purchased Power	21,936,659	26,520,839	29,197,504	29,956,639	30,735,512	31,534,635	32,354,535
Distribution	2,614,566	2,661,628	2,720,184	2,790,908	2,863,472	2,937,922	3,014,308
Customer Accounting	824,902	839,750	858,224	880,538	903,432	926,921	951,021
Customer Service & Information	128,809	131,127	134,012	137,496	141,071	144,739	148,502
Administrative and Other	3,469,624	3,532,078	3,609,783	3,703,638	3,799,932	3,898,730	4,000,097
Franchise Fee - City of Ingram	25,161	25,161	25,161	25,161	25,161	25,161	25,161
Payment In-Lieu-of-Taxes	1,122,252	1,002,332	1,144,078	1,262,697	1,285,471	1,308,837	1,332,811
Depreciation & Amortization	2,801,802	2,945,148	3,297,633	3,618,703	3,828,875	4,023,287	4,184,773
Total O&M	**$ 32,923,774**	**$ 37,658,063**	**$ 40,986,578**	**$ 42,375,780**	**$ 43,582,926**	**$ 44,800,233**	**$ 46,011,209**

Load Data

Load data is one of the most critical components of a cost of service study. Information from billing statistics was combined with KPUB load data to determine usage patterns of each customer class.

Forecasted Sales Forecast

Forecasted sales were projected using 0% growth.

System Loss Factors

Losses occurring from the transmission and distribution of electricity can vary from year to year depending upon weather and system loading.

Revenue Forecast

The revenue forecast was based on 2016 usages adjusted for projected changes.

Capital Plan

The capital plan below was provided by KPUB

Projected Capital Improvements for 2018 – 2022

Fiscal Year	Projected Capital Improvement
2018	10,728,295
2019	5,325,210
2020	5,183,414
2021	4,537,150
2022	3,537,150

Recommendations

1) The cost of service study indicates current revenues are 2.2% below current revenue requirements and a rate adjustment is recommended for 2019 and beyond. The rate track indicates a 2.2% increase should be considered in 2019, with additional 2% adjustment in 2021. The actual rate track may differ as expenses and capital costs materialize throughout the projection period.

Fiscal Year	Projected Rate Adjustments	Projected Revenues	Projected Expenses	City Transfer (%)	City Transfer $	Adjusted Operating Income	Projected Cash Balances	Restricted Funds	Total Cash	Capital Improvements	Bond Issues	Debt Coverage Ratio
2017	0.00%	38,686,111	37,658,063	3.0%	1,002,332	1,028,048	13,540,439	7,386,792	20,927,231	6,151,650		9.98
2018	0.00%	42,640,076	40,986,578	3.0%	1,144,078	1,653,497	7,534,055	7,386,792	14,920,847	10,728,295	-	12.06
2019	2.20%	44,325,188	42,375,780	3.0%	1,262,697	1,949,409	7,517,478	7,386,792	14,904,270	5,325,210	-	13.39
2020	0.00%	45,104,061	43,610,706	3.0%	1,313,250	1,493,356	7,396,830	7,386,792	14,783,622	5,183,414	-	13.02
2021	2.00%	46,794,262	44,828,012	3.0%	1,336,616	1,966,250	8,588,541	7,386,792	15,975,333	4,537,150	-	14.30
2022	0.00%	47,614,162	46,065,721	3.0%	1,387,322	1,548,442	10,529,618	7,386,792	17,916,410	3,537,150	-	13.92
Recommended Target in 2018						**$ 2,582,720**	**$ 11,873,520**					**1.65**
Recommended Target in 2022						**$ 2,822,706**	**$ 12,476,995**					**1.65**

2) The cost of service study indicates that some customer classes are paying above cost of service and some below cost of service. It is recommended rates be designed with a plus or minus 2.0% bandwidth using the table below for guidance. The recommended rate adjustment for 2019 is 2.2%.

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	$ 23,360,415	$ 22,776,298	3%
Outdoor Area Lighting	219,649	218,468	1%
Street Lighting	291,114	286,336	2%
Commercial Service	14,955,051	14,847,944	1%
Large Commercial Service Primary	544,238	553,746	-2%
Large Commercial Service Secondary	1,035,490	1,012,998	2%
Contract Secondary	2,234,939	2,038,832	10%
Contract Primary	378,218	355,270	6%
Total	**$ 43,019,115**	**$ 42,089,892**	**2.2%**

APPENDIX A

Rate Design Report Under Separate Cover