



## **Rochelle Municipal Utilities**

PROPOSAL FOR

### Electric Cost of Service and Rate Design Study

February 27, 2020



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February 27, 2020

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Utility Financial Solutions, LLC (UFS) is pleased to submit a proposal to provide a cost of service and rate design study for Rochelle Municipal Utilities (RMU). Our proposal is based on our prior experience with completing cost of service studies for municipal utilities around the United States. UFS is an internationally known firm with a long-standing relationship and history of assisting municipalities with financial analysis and are recognized experts in the utility field. UFS personnel are instructors for the American Public Power Association, Southern Gas Association and the National Association of Regulatory Utility Commissioners. Courses UFS instruct include financial planning, cost of service, rate design, and a series of Commission training programs.

**Proposed Project Manager, Mr. Mark Beauchamp:** Mark will oversee project management and contractual agreements. Mr. Beauchamp began Utility Financial Solutions, LLC in 2001 and is the current President of UFS. With over 38 years' experience working with utilities he has completed over one thousand cost of service studies. His degrees include Water Purification Technology, Accounting and MBA. His background provides unique experience and knowledge to share with utilities and includes a Class A license in wastewater treatment, water treatment license, Certified Public Accountant and Certified Management Accountant. This unique background has identified Mark as an industry leader in utility cost of service and rate design.

**Prior Experience:** UFS is comprised of experienced staff including economists, engineers and finance professionals. Our reputation has allowed us to be the recommended rate consulting firm for numerous associations and agencies around the country. Our extensive experience provides Councils with studies that can be relied upon. Please feel free to contact the references included in this proposal.

**Project Approach:** UFS has obtained rate approval for thousands of utilities. Our unique approach includes development of key targets to keep the utility financially stable, development of minimum and maximum levels of rate adjustments, and identification of a long-term rate track for each utility. The key targets and development of the rate track is used as part of an educational presentation for the governing body to obtain guidance and input in the rate making process. Our methodology and the education provided is why we have grown to be the preferred provider of rate study services in the United States.

We appreciate the opportunity to submit this proposal and look forward to discussing it with you. If you have questions or need additional information, please contact me at 616.403.5450.

Sincerely,

A handwritten signature in black ink that reads "Mark Beauchamp". The signature is written in a cursive style and is positioned above a horizontal line.

Mark Beauchamp, CPA, MBA, CMA  
President, Utility Financial Solutions, LLC

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## Understanding of Project Requirements

RMU owns over 20 miles of high voltage 138 kV transmission line and distributes power over 300 miles of electrical wire. Three generating stations are owned and operated by RMU and are supplied by natural gas. The following services will be provided as part of the study by Utility Financial Solutions, LLC:

### Summary of Services

1. Five Year Financial Projection that includes the following:
  - a. Determination of Revenue Requirements for each year
  - b. Development and identification of financial targets related to the following:
    - i. Debt Coverage Ratio
    - ii. Minimum Cash Reserves
    - iii. Operating Income
  - c. Identification of long-term rate track to maintain financial stability of utility and minimize the potential rate impacts on customers
  - d. Transmission sale (to defeasance debt / possibly lower rates)
2. Development of Cost of Service Study that identifies the following:
  - a. Comparison of cost to provide service to each class with projected revenues
  - b. Identification of potential new rate classes based on load characteristics
  - c. Monthly customer charges for each class of customers
  - d. Transmission delivery charges
  - e. Distribution delivery charges
  - f. Power supply charges
  - g. Seasonality of costs
  - h. Identification of fixed and variable costs including the following broken out by season:
    - i. Total demand related costs
    - ii. Total energy related costs
    - iii. Monthly customer related costs
  - i. Identification of costs based on voltage level of customers
    - i. Transmission level customer
    - ii. Primary metered customer
    - iii. Secondary metered customer
3. Rate Design (One year included, additional years if requested)
  - a. Development of rates to move classes closer to cost of service
  - b. Development of rates to move components of rates closer to cost of service
  - c. Identification of Impacts of rate changes by classes considering the following:
    - i. Percentage impacts at various usage levels
    - ii. Dollar impacts at various usage levels
    - iii. Percentage impacts for demand rate classes based on load factors
  - d. Identification of overall rate impacts on customers
  - e. Electric vehicle TOU rate for residential customers
  - f. City owned car charging station rate
  - g. Revised small commercial rate (to make more competitive)
  - h. Identify discount rate for customers at or below poverty

4. Presentation to Staff and Governing Body
  - a. Review results and assumptions
  - b. Development of appropriate financial targets
  - c. Obtain input and feedback on rate track and rate designs including:
    - i. Overall rate change for each year
    - ii. Customer charges
    - iii. Review of seasonality of rates
  - d. Discussion of overall goals and objectives of management and Council including:
    - i. Energy conservation
    - ii. Economic development
    - iii. Distributed generation customers
    - iv. Other considerations in rate design
  
5. Reports
  - a. Executive summary report discussing the following:
    - i. Financial projection results and rate adjustment to achieve financial targets
    - ii. Cost of service results for each rate class
    - iii. Cost based rate structures
    - iv. Assumptions used in development of study
    - v. Recommendations on rate track, movement toward cost of service, financial targets, others as identified
  - b. Second report on rate design after input from staff and Council
    - i. Proposed rate design for each rate class
    - ii. Rate impacts on each customer class
    - iii. Rate impacts at various levels of usage for each rate class

## Proposed Work Plan and Project Approach

Our approach to this project was developed to meet the objectives of the Utility and is based on the scope of services and UFS prior experience in completing electric cost of service studies around the nation. Listed below are more detailed descriptions of the services provided, our process and sample outputs from our studies. Our proposed work plan is designed to meet the requirements and methodologies established in the industry.

### Preliminary Tasks

Listed below are tasks to develop the financial projection and cost of service portion of the study.

#### 1. **Review of Relevant Reports**

Review of certain reports is necessary to ensure the models are established to fit the specific requirements of the Utility. Listed below are examples of reports to obtain and review.

- Yearly financial, operating and maintenance reports including fixed assets reports
- Outstanding bond issues and specific bond covenants
- Rate schedules and any special contracts

#### 2. **Collect and Verify Data**

Meeting with utility management is critical to ensuring the final reports will meet the objectives of the Utility and the information request prepared by Utility Financial Solutions, LLC is understood. The specific objectives of the meeting will be to:

- Identify and clarify the scope of services and specific expectations of management
- Review billing system capabilities for providing the information necessary for the cost of service analysis. ***We will complete one revenue proof to reconcile revenues received compared with calculated revenues from billing system.***
- Review chart of accounts and determine strengths and weaknesses and its consistency with utility accounting practices
- Availability of load research data and develop a plan to obtain information needed by cost of service study
- Discuss with management the strengths and weaknesses of determining utility revenue requirements using a utility basis vs. cash basis
- Discuss power supply and recent or anticipated changes in rates or operations
- Review of transmission charges
- Additions or losses of major customers

#### 3. **Preparation of Data Request**

After completion of the preliminary tasks UFS will prepare an information request that will include the necessary information to complete the study. Listed below are specific reports that will be requested:

- Customer billing and usage statistics by month for latest fiscal year
- Monthly production statistics or power supply purchases
- Power supply rates for upcoming years
- System hourly load information
- Trial balances for latest two years
- Audited financial statements for the latest three years
- Debt service schedules
- Current work-in-process
- Future capital improvement plan
- Power Supply costs
- System load data (if available)

## Development of Five-Year Financial Projection and Financial Targets

### **Development of Sales Projection**

Through review of historical sales and discussion with utility staff we will develop a projection of the following:

1. Future energy sales
2. Number of customers
3. Billing demands
4. Miscellaneous revenues
5. If a power cost adjustment mechanism is approved, this will be incorporated into the financial projection

### **Development of Utility Revenue Requirements**

Revenue requirements are developed through review of historical expenses and discussions with the utility on changes in costs and the utilities budget. Completion of this tasks is summarized below:

- **Operating Expense Projection**  
Operating expenses often include expenses related to operation, maintenance and administration of the utility and the distribution system. Operating expense projections are often based on historical expenses adjusted for changes in costs and includes adjustments for changes that management anticipates will occur in the future.
- **Power Supply Projection**  
Power supply costs typically represent over 70% of an electric utility's total revenue requirement. The magnitude of this expenditure requires this projection to be based on reasonable assumptions that are documented and reviewed with management. To project power supply expenses, we often review the latest twelve months of detail power supply invoices and develop a power supply projection model where we can include growth of the system and changes in power supply costs. We will work with utility staff to estimate power supply costs based on the projected monthly loads.
- **Transmission Cost Projection**  
Transmission costs are often included as part of the power supply bill or may be in a separate invoice. As part of the power supply projection we will include changes in demand rates for transmission and review the transmission cost projection with utility staff.
- **Debt Service**  
The amortization schedules for outstanding debt service will be incorporated into the financial projection. The corresponding principal and interest expense are appropriately classified into the income statement and cash flow sections of the long-term financial projection. Any potential future bonding requirements will be identified and incorporated into the projection with the debt coverage ratios compared with the bond ordinance requirements adjusted for certain safety factors to adjust for changes in weather and the subsequent sales of electricity.
- **Capital Improvement Plan**  
A critical part of the financial projection is the capital improvement plan received from the utility. UFS will review the capital improvement plan with utility staff for reasonableness and capabilities of the utility to complete the projects as stated. UFS models allow easy entry for capital Improvements and provide sensitivity on future rate adjustment or bond issuance impacts, though it is preferred that the report includes a reasonable approximation of the annual expense. In addition, UFS identifies an appropriate range for normal capital funding to provide guidance on development of capital improvement plans.

**Transmission sale**

UFS will include \$17 million in cash as a result of the transmission sale and a \$4.5 million asset reduction in the financial projection. The Utility would like to use proceeds for debt defeasance and potentially lower rates for specific classes. UFS will incorporate this sale into our financial models and provide sensitivity analysis on possible scenarios.

Below is an output from UFS models that compares the utility capital plan with UFS range of capital expenditures. For this utility, UFS has identified the annual range between \$2.5 and \$3.5 million. The capital expenditure ranges developed by UFS are for guidance only and are most applicable to long term capital planning outside major or extraordinary capital expenditures.

**Sample Report Output: Ordinary Capital Reinvestment Range**

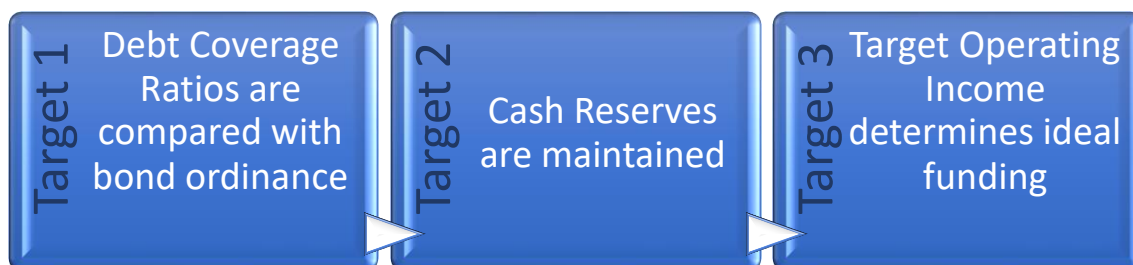


**Development of Key Financial Targets**

UFS financial models and the subsequent cost of service studies are unique in their ability to easily change from cash basis revenue requirements to accrual basis (Utility Basis) revenue requirements. The financial models include both cash basis targets such as cash reserves and debt coverage; and accrual basis targets such as rate of return.

Listed below are discussion of the development of the three main financial targets for utilities. UFS studies also include a review of secondary financial matrices such as debt/equity ratios, age of system, days cash on hand and working capital requirements as part of the overall assessment of the financial health of the utility. Review of targets will be included as part of the study and will be discussed in the executive summary report and presentation to utility staff and Council.

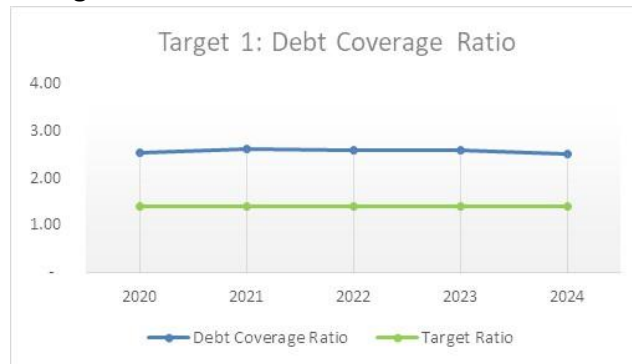
Our process includes the following:



**Target One: Debt Coverage Ratio**

Electric utilities are often required to issue revenue bonds that include requirements related to debt coverage. It is critical electric utilities meet or exceed these bonding requirements to help ensure the utility maintains appropriate bond ratings to keep future interest rates low. As part of our studies we review the existing bond ordinances and identify the debt coverage requirements. These are included in the study with an appropriate safety factor to help ensure coverage requirements are met during periods of low sales due to weather or dramatic changes in expenses such as power supply costs.

**Sample Report Table: Debt Coverage Ratio**



Description	Projected Y1	Projected Y2	Projected Y3	Projected Y4	Projected Y5
<b>Debt Coverage Ratio</b>					
Net Income	\$ 996,826	\$ 997,462	\$ 945,213	\$ 826,113	\$ 758,497
Add Depreciation/Amortization Expense	2,565,601	2,609,101	2,732,859	2,921,523	3,057,531
Add Interest Expense	764,408	726,408	688,408	648,408	606,408
Cash Generated from Operations	\$ 4,326,835	\$ 4,332,972	\$ 4,366,480	\$ 4,396,044	\$ 4,422,435
Debt Principal and Interest	\$ 1,714,408	\$ 1,676,408	\$ 1,688,408	\$ 1,698,408	\$ 1,706,408
<b>Projected Debt Coverage Ratio (Covenants)</b>	<b>2.52</b>	<b>2.58</b>	<b>2.59</b>	<b>2.59</b>	<b>2.59</b>
<b>Minimum Debt Coverage Ratio</b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>

### Target Two: Minimum Cash Reserves

A critical question for utilities is the amount of cash reserves required to be held in reserve to help ensure funds exist to pay bills in a timely manner, to fund catastrophic events, future capital improvements and rapid changes in power supply or transmission costs. Each utility has various needs for cash and is dependent on the risks associated with the operations of a utility. As part of our studies we assist utilities with identifying the minimum level of cash a utility should maintain in reserves and include a review of the following:

- Historical investment in assets and age of infrastructure
- Exposure to catastrophic event
- Working capital requirements
- Debt service payments
- Power cost adjustment mechanism (PCA)
- Risks related to changes in power supply, transmission costs, or loss of major customer
- Stability of rate structures and its ability to recover fixed costs
- External reserve requirements related to items such as OPEB or Pension cost liabilities

### Sample Report Table: Minimum Cash Reserves



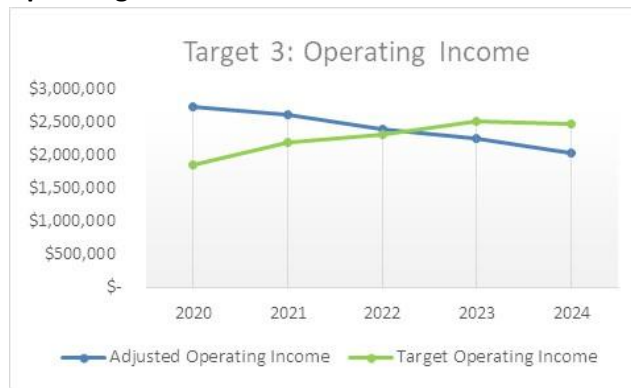
Description	Projected Year 1	Projected Year 2	Projected Year 3	Projected Year 4	Projected Year 5
<b>Minimum Cash Reserve Allocation</b>					
Operation & Maintenance Less Depreciation Expense	25.0%	25.0%	25.0%	25.0%	25.0%
Purchase Power Expense	25.0%	25.0%	25.0%	25.0%	25.0%
Historical Rate Base	2.0%	2.0%	2.0%	2.0%	2.0%
Current Portion of Debt Service Payment	83%	83%	83%	83%	83%
Five Year Capital Improvements - Net of bond proceeds	20%	20%	20%	20%	20%
% Plant Depreciated	56%	54%	55%	55%	59%
<b>Calculated Minimum Cash Level</b>					
Operation & Maintenance Less Depreciation Expense	\$ 6,589,952	\$ 6,762,400	\$ 6,941,318	\$ 7,153,036	\$ 7,281,393
Purchase Power Expense	8,381,482	9,722,132	9,982,984	10,548,544	9,731,911
Historical Rate Base	1,527,454	1,689,254	1,769,511	1,877,918	1,877,918
Current Portion of Debt Service Reserve	1,391,419	1,401,379	1,409,679	1,416,319	1,462,799
Five Year Capital Improvements - Net of bond proceeds	3,939,646	3,939,646	3,939,646	3,939,646	3,939,646
<b>Minimum Cash Reserve Levels</b>	<b>\$21,829,952</b>	<b>\$23,514,810</b>	<b>\$24,043,138</b>	<b>\$24,935,462</b>	<b>\$24,293,667</b>
<b>Projected Cash Reserves</b>	<b>\$24,692,803</b>	<b>\$19,224,903</b>	<b>\$17,829,253</b>	<b>\$15,047,239</b>	<b>\$17,559,446</b>

**Target Three: Target Operating Income**

Identifying a target operating income that incorporates a rate of return is often associated with investor-owned utilities. Public power systems need to have a rate of return to breakeven and ensure customers are appropriately paying for their use of the infrastructure. The breakeven rate of return recovers two types of costs:

1. Interest expense on outstanding debt
2. Inflationary increases in asset’s eventual replacement - An appropriately developed target operating income identifies the annual funding requirements for capital replacement of existing facilities and prevents current customers from being overcharged or undercharged at any point in time. This helps prevent large rate increases often resulting when only the cash basis targets are reviewed. Achievement of the target operating income improves financial stability and requires only modest rate adjustments once the target is achieved. Development of the operating income target will include a review of interest expense on debt and age of existing infrastructure to identify the breakeven rate of return requirements.

**Sample Report Table: Target Operating Income**



Description	Projected Year 1	Projected Year 2	Projected Year 3	Projected Year 4	Projected Year 5
<b>Target Operating Income Determinants</b>					
Net Book Value/Working Capital	\$ 33,525,928	\$ 38,888,526	\$ 39,931,938	\$ 42,194,174	\$ 38,927,644
Outstanding Principal on Debt	18,160,200	17,210,200	16,210,200	15,160,200	14,060,200
System Equity	\$ 15,365,728	\$ 21,678,326	\$ 23,721,738	\$ 27,033,974	\$ 24,867,444
<b>Target Operating Income Allocation</b>					
Interest on Debt	4.21%	4.22%	4.25%	4.28%	4.31%
System Equity	7.06%	6.73%	6.87%	6.90%	7.48%
<b>Target Operating Income</b>					
System Equity	\$ 1,085,106	\$ 1,459,590	\$ 1,629,338	\$ 1,864,944	\$ 1,859,437
<b>Target Operating Income</b>	<b>\$ 1,849,514</b>	<b>\$ 2,185,998</b>	<b>\$ 2,317,746</b>	<b>\$ 2,513,352</b>	<b>\$ 2,465,845</b>
<b>Projected Operating Income</b>	<b>\$ 2,728,770</b>	<b>\$ 2,599,641</b>	<b>\$ 2,394,956</b>	<b>\$ 2,247,337</b>	<b>\$ 2,037,669</b>
<b>Rate of Return in %</b>	<b>5.5%</b>	<b>5.6%</b>	<b>5.8%</b>	<b>6.0%</b>	<b>6.3%</b>

### Dashboard and Summary Financial Projections

The projections will be summarized, and development of alternative rate tracks will be reviewed and compared to each financial target to help ensure the future financial stability of each utility. We will work with Management and the Governing body in review and development of five-year strategies and rate track. The first table below depicts the future financial statement excluding rate adjustments and debt issuances. The second table depicts projected financial statements including rate adjustments and a \$5.0 million dollar debt issuance in 2019. Projections can be extended for the requested time period.

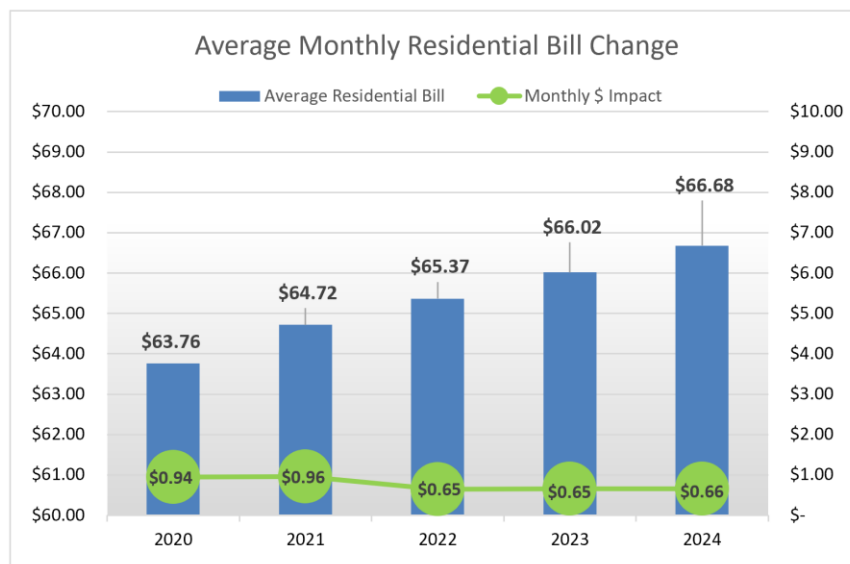
#### Projected Summary Financial before Rate Adjustments

Fiscal Year	Projected Rate Adjustments	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash	Capital Improvements Plan	Debt Coverage Ratio
Year 1	0.0%	\$ 2,728,770	\$ 3,038,480	\$ 16,392,621	\$ 18,099,160	\$ 6,065,000	1.10
Year 2	0.0%	2,711,845	3,019,772	14,592,541	19,169,551	2,175,000	1.11
Year 3	0.0%	2,622,411	3,061,319	10,964,992	19,674,886	4,012,870	1.11
Year 4	0.0%	2,473,225	3,149,568	5,938,354	20,516,844	5,420,360	1.12
Year 5	0.0%	2,380,491	3,098,229	4,959,247	20,862,261	1,380,000	1.12

#### Projected Summary Financials with Rate Adjustment and \$5.0 million bond issuance

Fiscal Year	Projected Rate Adjustments	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash	Capital Improvements Plan	Debt Coverage Ratio
Year 1	2.0%	\$ 3,350,054	\$ 3,038,480	\$ 17,013,904	\$ 18,099,160	\$ 6,065,000	1.26
Year 2	2.0%	3,972,613	3,019,772	22,477,689	19,169,551	2,175,000	1.44
Year 3	1.0%	4,216,200	3,061,319	21,453,355	19,674,886	4,012,870	1.53
Year 4	1.0%	4,407,444	3,149,568	21,578,377	20,516,844	5,420,360	1.62
Year 5	1.0%	4,662,614	3,098,229	21,908,593	20,862,261	1,380,000	1.71

Table below shows the average monthly change for the residential customer with the rate adjustment.



The rate track is reviewed with utility staff and Council prior to inclusion on the executive summary report of UFS.

## Development of Cost of Service Study

The development of the cost of service study incorporates the revenue requirement identified as part of the financial projection. This section describes the additional procedures used in development of the cost of service study and sample outputs from previous studies.

### **Load Profile Information**

Load profile information identifies how customers use electricity at various times of the day and is critical to ensure the cost of service study is accurate and defensible. UFS works with utility staff in identification of the appropriate sources of load research information. We will analyze information from the following sources:

- Electronic meters installed on time of use and other customers
- Load research information available from other sources
- Analysis of substation feeders
- Utilize our data base of existing load research obtained from other utilities

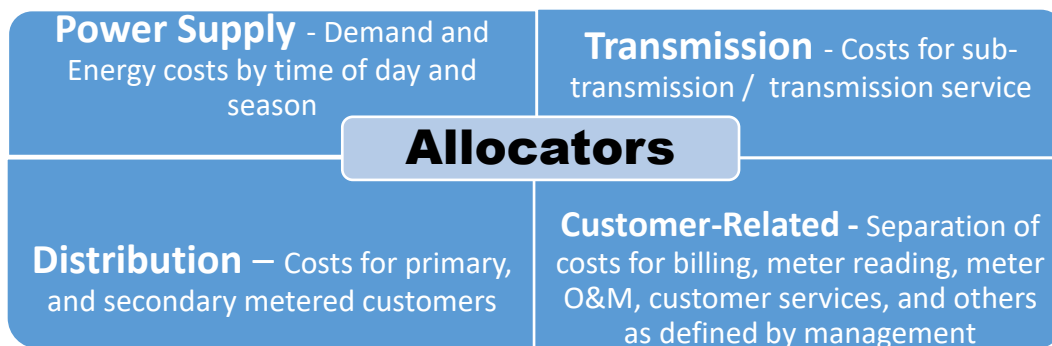
The load research information identifies the monthly load factors for each class, how much is being used by the class at the peak time of the day when power supply demand or transmission demand charges are determined. The load research information is compared with the hourly system hourly load data to determine the class contributions. The information is then used to determine the class share of transmission and power supply costs.

### **System Losses**

Losses can vary substantially depending on system loading and temperature. We will identify the system loss at the various voltage levels of service to customers. To determine the overall system losses, we typically use a three-year average of losses to reduce the impact of changing weather patterns between the last and first month of each year. The losses are then allocated between voltage level such as transmission, substations, primary service and secondary voltage levels.

### **Development of Allocators**

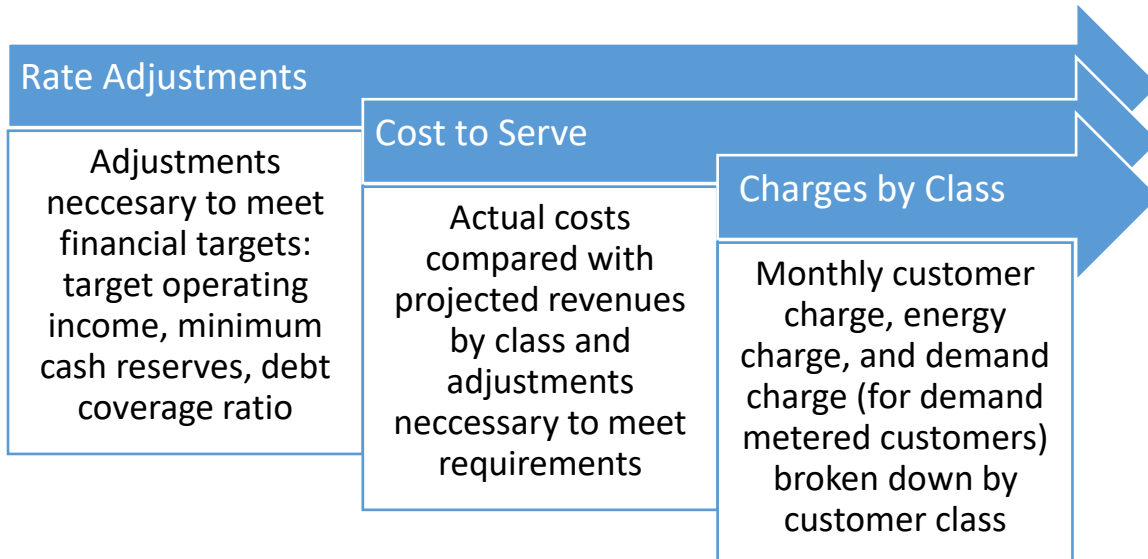
The load profile information for each class is used to determine the allocation factors used to allocate expenses based on cost-causation. Examples of cost causation include the identification of the date and time power supply demand charges are determined and each class usage at the time of the peak demands. There are over 40 allocation factors often developed as part of a UFS cost of service study. Allocation factors are developed for each season and developed for specific expenses. A summary of the costs where specific allocation factors need to be developed are listed below.



### Prepare Cost of Service Analysis

Customer classes are typically established based on differences in load and usage patterns. How customers use electricity dictates the cost of providing many utility services.

The cost of service portion of the model will determine the following:



A summary of the cost of service analysis is developed similar to the table below:

Customer Class	Cost of Service	Projected Revenues	% Change
Residential A	\$ 4,672,077	\$ 4,183,897	11.7%
General Secondary B	3,032,446	2,974,374	2.0%
Street Light Service S	144,370	133,504	8.1%
Secondary Energy & Demand C	3,144,714	3,072,174	2.4%
Primary Energy & Demand D	20,191,294	20,700,210	-2.5%
<b>Total</b>	<b>\$ 31,184,902</b>	<b>\$ 31,064,158</b>	<b>0.4%</b>

The cost of service column from the table on the previous page identifies the cost to provide service to each class of customers and is compared with the projected revenues from each class. The percent change is the rate adjustment necessary for each class to achieve cost of service. We typically do not recommend rates move fully to cost of service, but as part of the discussions with staff and Council we develop a plan to move classes toward cost of service to minimize rate impacts on any specific customer class.

## Development of new rate classes

As part of the initial discussions with management and review of the existing rate tariffs, we will discuss with utility staff if new rate classes should be considered or if existing rate classes should be combined. Rate classes are created based on similarity in usage patterns, but often utilities will develop new rate classes to create incentives for customers to shift usage to periods of time where power supply costs are lower such as on and off peak time periods for time of use rates. Examples of new rate class developments are listed below.

- **Standby charges** – Cost isolated by investment in facilities to serve customers on a standby basis.
- **Interruptible Loads** – Rates to promote interruptible loads that reflect the savings to the Utility. Our study will isolate costs by power supply demand, energy and transmission to identify the potential cost savings of an interruptible customer.
- **Seasonal Rates** – The cost of service study allocates costs to each rate class based on seasonal time period. The time periods will be identified through review of system loads and power supply and transmission costs.
- **Time of Use** – For time of use rates to be effective in sending the proper price signal, the cost of service analysis is supplemented with marginal costs to identify and recommend appropriate charges on a time of use basis.
- **Economic Development Rates** - Rates can be developed to promote economic development by attracting new customers or expansion of existing customers. It is important economic development rates be developed using a marginal cost approach to ensure existing customers are not unduly subsidizing any reduce rates or fees charged under an economic development program.
- **Other Potential Rates are listed below:**
  1. Public education rates
  2. Green Rates
  3. Net Metering Rates
  4. Aggregation Rates

New rate designs may result in additional charges for the services provided by UFS. As part of the initial kick off meeting, we should discuss if any potential new rate classes are being considered.

**Breakdown of cost of service rate structure by type of expense for each class of customers**

UFS cost of service studies identify cost in a summary and a detail cost breakdown for each class of customers. For example, the summary of costs identifies the class cost breakdown by customer charge, power supply demand, transmission demand, distribution demand and energy costs. An example is listed below:

Customer Class	Monthly Customer Charge	Distribution Rate	Power Supply			
			Summer		Winter	
			Demand	Energy	Demand	Energy
Residential A	\$ 13.65	\$ 0.0249	\$ 0.0181	\$ 0.0479	\$0.0101	\$ 0.0353
General Secondary B	26.60	0.0288	0.0311	0.0550	0.0136	0.0319
Street Light Service S	-	0.1752	-	0.0689	-	0.0300
Secondary Energy & Demand C	120.60	8.52	12.09	0.0577	4.88	0.0313
Primary Energy & Demand D	223.90	7.24	12.38	0.0573	4.85	0.0296

In addition, further breakdowns are available in the studies depending on the needs of each utility. A sample detailed breakdown of distribution costs is listed below:

Rate Breakdown	kWh		kWh		KW	
	Residential A	Secondary B	General	Secondary Energy & Demand C	Primary Energy & Demand D	
Demand Breakdown						
Distribution	\$ 0.0110	\$ 0.0117	\$ 3.44	\$ 2.95		
Transmission	0.0059	0.0084	2.91	2.91		
Transformer	0.0027	0.0029	0.73	-		
Substation	0.0052	0.0057	1.43	1.39		
Direct	-	-	-	-		
Subtotal - kWh, kW, HP Charge	\$ 0.0249	\$ 0.0288	\$ 8.52	\$ 7.24		
Customer Breakdown						
Distribution Customer Costs	\$ 6.07	\$ 12.13	\$ 54.59	\$ 109.18		
Transformer Customer Costs	2.07	4.14	18.62	-		
Meter O&M	0.57	0.57	2.87	39.11		
Meter Reading	0.13	0.13	1.15	2.30		
Billing	0.08	0.15	0.70	1.39		
Services	1.20	2.41	10.83	8.23		
Customer Service	3.54	7.08	31.84	63.68		
Customer Charge \$/Meter	\$ 13.65	\$ 26.60	\$ 120.60	\$ 223.90		

## Rate Design

Design of electric rates uses input from the cost of service study as guidance on changes to rate classes and the rate components for each rate class. Cost of service results are one factor in design of electric rates for customers. Other factors must be considered such as impact on customers, social and environmental issues and philosophy of the utilities governing body. The rate design process includes discussion with utility staff and input from Council prior to developing a proposed rate structure. This allows the governing body to have input prior to the actual design of rates. The guidance provided by Council includes input on the overall increase in rates and the increases for each class of customers. Based on UFS experience, this critical step in the process allows for a smooth approval of the proposed rates.

### **Electric Vehicle TOU Rate for Residential Customers**

There is tremendous momentum in the United States and in other countries behind electric vehicles (EV) and its potential for mass adoption. A critical player in the success of the EV is the Electric Utility. The electric provider will need to determine how best to balance customers' demands for reliability with affordability and helping to ensure operating costs are recovered from all customers, including customers using EV. The development of appropriate pricing incentives to help ensure customers charge EVs during optimal times of the day is one of the critical financial challenges facing electric utilities today. The financial success of the utilities and the economics to purchase an electric vehicle is dependent on the proper price signal sent by the electric provider. We have listed below our proposed work plan to complete the analysis.

Development of the Rate Methodology needs to consider the following:

- Power Production Costs
- Time periods to use
- Distribution Cost Recovery for current Operation, Maintenance, and Replacement of the distribution system
- Cost of Improvements needed, including metering and customer specific improvements (Service lines to customers)
- Cost of system improvements required to handle the additional customer loads, including line and system transformers
- Impact on existing ratepayers to help ensure existing ratepayers are not harmed by the rates charged to EVs
- The social concerns to protect the environment using cleaner technologies
- Management concerns on promoting EVs in service territory
- Impacts wind generation may have on future power supply rates during the off-peak time periods
- Should the EV's rate cover marginal costs of production, but less than the fully embedded cost of production and distribution
- How transmission costs impact the rates paid by EVs
- Should the utility provide public charging stations for customers with EVs
- How much value the additional load will provide existing ratepayers and how this value can be used to cover a portion of the initial costs of system and metering improvements
- What pricing methodologies, time of use periods, and rules and regulations are being used or considered by other utilities

### **City Owned Car Charging Station Rate**

EV charging may consist of the utility installing chargers throughout the city, commercial customers installing charging stations in parking lots, and residential customers charging vehicles at their home. With a growing market for electric vehicles, it's becoming more important for cities to offer car charging stations for the community. When setting a city owned car charging rate, we will use the same methodology outlined for the Residential EV rate, and also take into consideration the cost of the station asset and need for eventual replacement. Other subsidiary costs include processing fees and subscription fees.

### **Revised Small Commercial Rates**

The utility's small commercial rate class is currently not competitive compared to other electricity providers in the area. UFS will analyze the small commercial load data and recommend a structure that provides better competitiveness.

### **Discount Rate for Poverty Level Customers**

Customers who are low income are often misunderstood to be low use electricity customers. However, research has shown that poverty level customers tend to use more electricity due to the use of older inefficient appliances, older less insulated homes, and more residents living in the home. These customers benefit when monthly customer charges are set appropriately as fixed customer costs are not recovered in the energy rate (the energy rate is lower). To further assist poverty level customers, UFS can develop a rate for customers that meet certain income level criteria. Providing a discounted rate allow the utility to be purposeful in accommodating poverty level customers.

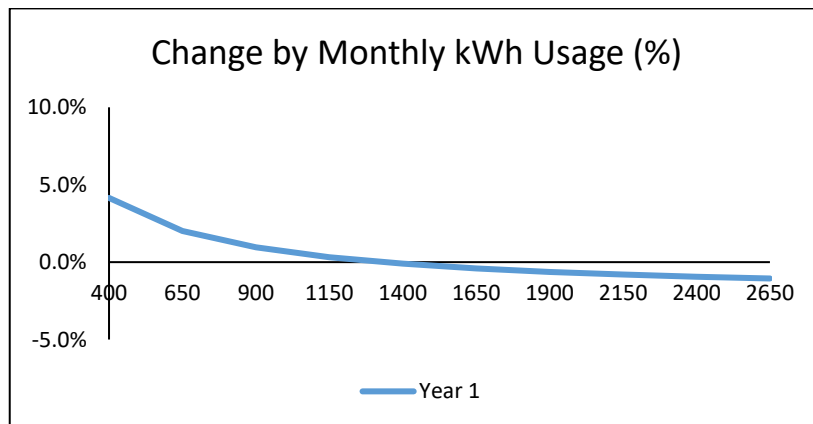
**Summary of overall rate adjustments for each class - Electric**

Customer Class	Projected	Projected	Projected
	Revenues Under Current Rates	Revenues Under Proposed Rates Year 1	Percentage Change Year 1
Residential A	\$ 4,183,897	\$ 4,272,065	2.11%
General Secondary B	2,974,374	3,019,822	1.53%
Street Light Service S	133,504	135,687	1.64%
Secondary Energy & Demand C	3,072,174	3,125,649	1.74%
Primary Energy & Demand D	20,700,210	20,956,423	1.24%
<b>Totals</b>	<b>\$ 31,064,158</b>	<b>\$ 31,509,647</b>	<b>1.43%</b>

**Electric Sample Rate Design, Single Year**

Projected Residential Rates

Rates	Current	Year 1	COS
Monthly Facilities Charge:			
All Customers	\$ 6.50	\$ 8.50	\$ 14.47
Energy Charge:			
All Energy	\$ 0.0681	\$ 0.0666	\$ 0.08093
Revenue from Rate	\$ 3,584,465	\$ 3,648,247	\$ 4,709,219
Change from Previous		1.8%	



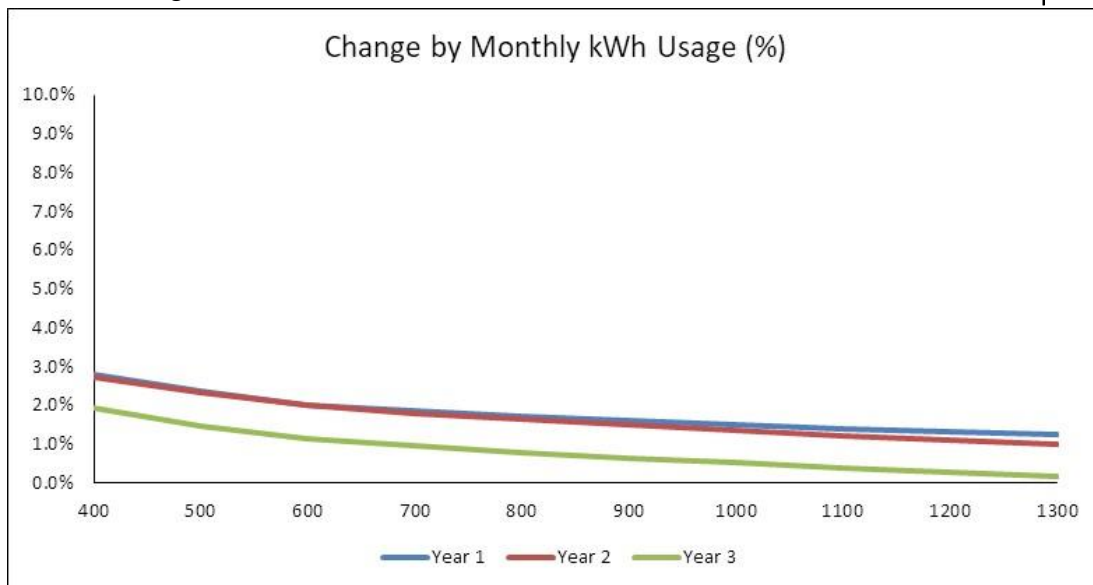
**Average Monthly Bill Increase by Usage**

All Energy	Year 1	Year 1
	\$	%
400	\$1.40	4.1%
650	\$1.03	2.0%
900	\$0.65	1.0%
1150	\$0.28	0.3%
1400	(\$0.10)	-0.1%
1650	(\$0.47)	-0.4%
1900	(\$0.85)	-0.6%
2150	(\$1.22)	-0.8%
2400	(\$1.60)	-0.9%
2650	(\$1.97)	-1.1%

## Electric Sample Rate Design, Multi Year

### Projected Residential Rates

Rates	Current	Year 1	Year 2	Year 3	COS Rates
Monthly Facilities Charge:					
All Customers	\$ 11.75	\$ 13.25	\$ 14.75	\$ 16.25	\$ 18.86
Energy Charge:					
Winter All Energy	\$ 0.1018	\$ 0.1019	\$ 0.1020	\$ 0.1020	\$ 0.10383
Summer Block 1 (First 20 kWhs per day)	\$ 0.1100	\$ 0.1100	\$ 0.1100	\$ 0.1070	\$ 0.10383
Summer Block 2 (Excess)	\$ 0.1249	\$ 0.1240	\$ 0.1220	\$ 0.1190	\$ 0.10383
Revenue from Rate	\$ 10,337,868	\$ 10,553,155	\$ 10,762,483	\$ 10,879,557	\$ 11,175,415
Change from Previous		2.1%	2.0%	1.1%	



### Average Monthly Bill Increase by Usage

	Year 1	Year 1 \$	Year 2	Year 2 \$	Year 3	Year 3 \$
	\$	%	\$	%	\$	%
All Energy						
400	\$1.52	2.8%	\$1.53	2.8%	\$1.10	1.9%
500	\$1.52	2.4%	\$1.53	2.3%	\$1.00	1.5%
600	\$1.53	2.0%	\$1.54	2.0%	\$0.90	1.2%
700	\$1.50	1.9%	\$1.49	1.8%	\$0.80	1.0%
800	\$1.47	1.7%	\$1.42	1.6%	\$0.70	0.8%
900	\$1.44	1.6%	\$1.35	1.5%	\$0.60	0.7%
1000	\$1.41	1.5%	\$1.29	1.4%	\$0.50	0.5%
1100	\$1.38	1.4%	\$1.22	1.2%	\$0.40	0.4%
1200	\$1.35	1.3%	\$1.15	1.1%	\$0.30	0.3%
1300	\$1.32	1.2%	\$1.09	1.0%	\$0.20	0.2%

## Review and Incorporation of Power Cost Adjustment

Power cost adjustments (PCA) are used by many municipal electric utilities to help ensure power costs are recovered from customers in a timely fashion and the electric utility remains financially stable. A PCA reduces the utility's risk and exposure to changes in power supply costs or changes in transmission charges and helps ensure retail customers are not over or undercharged for electricity in any given year. A PCA must be implemented properly to ensure dramatic changes in the PCA do not occur on a month to month basis leading to customer complaints. UFS has implemented PCAs for electric utilities around the nation and has extensive experience in identify the most appropriate method that balances customer impacts while maintaining the financial health of the utility. UFS will review the risks and monthly power cost to identify the most appropriate method. Listed below are general methods used by utilities. (Several variations of each method also exist)

**Monthly (Quarterly, Semi Annual) PCA** - Typically calculated each month or period of time such as quarterly. This methodology tends to result in dramatic changes in the PCA at the time of the true up and may result in increased complaints from customers.

**Annual PCA** - The power costs are trued-up each year and significant changes can occur at the beginning of each year. Also, the Utility must maintain significant reserves to provide funds to cover the fluctuations in the power costs.

**Rolling average PCA** - Tends to smooth out the fluctuations while maintaining the financial integrity of the utility. Costs are reviewed each month with small changes occurring with the goal of balancing power costs at the end of specific period of time such as 12 months.

**Forecasted PCA Monthly Review** - Based on the annual budget then adjusted monthly to reflect actual power supply costs

## Meetings, Reports and Deliverables

### Meetings

The following meetings are anticipated by conference call and/or webex:

- Kickoff meeting – Clarify scope of services, expectations of management and preliminary fieldwork
- Data Verification – A meeting will be conducted to verify data collected
- Financial Review – A meeting will be conducted to review assumptions used in the long-term projections
- Review draft reports with management (Conference call)
- Presentation as requested by management such as review report with City Council (Conference call)

### Format of Reports

UFS reports are typically separated into the reports listed below and provided in pdf format:

- **Power Point Summary** - A concise presentation of study results that is shared with management and staff prior to developing a proposed rate design. This summary will include graphs, charts, tables and recommendations.
- **Executive Summary Report** – An overview that identifies the objectives, process and results of the rate study in a clear and concise format, the report includes graphs, charts, tables and recommendations.
- **Rate Design Recommendation Report**– The rate design report is a separate module. To ensure efficiency and timeliness of the study the executive summary is provided to management for input into the rate design process. The rate design report includes the following:
  - Comparison of the current and proposed rates
  - Expected revenues generated from proposed rates
  - Impact on customer classes at various usage levels or load factors within each rate class

### Presentation of Cost of Service and Rate Design Study

A critical aspect of the study is the clear and concise presentation to the governing body of the utility. UFS professionals are skilled at explaining and working with advisory and governing bodies to ensure decisions are based on information they can understand and apply to their community.

## Firm Qualifications

This section discusses UFS experience and qualifications developed over the past 19 years assisting municipalities with cost of service and financial analysis. UFS personnel are recognized as national experts and include highly qualified, motivated, experienced, and knowledgeable professionals. UFS' reputation has resulted in industry leading status shown by the number of clients we serve, our frequent requests to instruct classes and speak at conferences around the nation and our frequent requests to serve as expert witnesses on rate related issues.

The Project Manager for RMU will be Mark Beauchamp, CPA, CMA, MBA with assistance from Dawn Lund, Vice President, and staff listed in this proposal. Mark has over 38 years' experience and holds degrees in Water Purification Technology, Accounting Degree and master's degree in business. Mark is a Certified Public Accountant, Certified Management Accountant, holds a class A license in Wastewater Treatment and an F-4 Water License.

UFS experience includes completion of rate studies in 43 states, Guam, several Caribbean Islands, and Canada. This provides UFS with the experience and knowledge to provide creative solutions for RMU.

### **UFS is the industry leader in electric, water, and sewer studies. Our national experience is summarized below:**

**In Demand** → UFS has completed numerous rate studies for electric, water, sewer, gas, telecommunications, and solid waste

**Diverse** → UFS is the preferred provider of rate services for municipalities, electric cooperatives, and members of Joint Action Agencies.

**Innovative** → UFS is leading the industry in development of Time of Use rates including variations of Variable Peak Pricing, Dynamic Pricing and Real Time Pricing.

**Reliable** → Our methodologies on establishing financial targets and cash reserve policies has become industry standards and have assisted utilities in improving bond ratings with Fitch, S&P and Moody's.

**Supported** → Our establishment of rates for customers located outside city limits have been accepted in State Courts and resulted in UFS becoming expert witnesses and arbitrators on rate disputes across the United States.

**Experienced** → UFS has provided electric, gas, water, wastewater, and telecommunications services to some of largest utilities in the country including Nashville, TN, Knoxville, TN, Sacramento Municipal Utility District, Rochester, MN, Imperial Irrigation District, CA, Austin, TX, Huntsville, AL, Columbia, MO and Lansing, MI.

**Knowledgeable** → We are frequent speakers on special rate topics around the United States including APPA's National Conference, APPA's Educational Institutes, E&O Workshop, Legal Conferences, Business and Financial Workshop, numerous webinars topics and state conferences in over 15 states.

A sample of recent presentations are listed below:

- Development of Avoided Cost and Rate Designs for Distributed Generation
- Appropriate levels of Contributions to City (Payment in lieu of Tax)
- Information provided by Cost of Service Studies
- Cash Reserve Policies for Electric Utilities
- Development of Utility Extension Policies
- Development of Key Financial Targets
- Cost of Service Challenges and Solutions
- The Rate Race

**Teachers** → UFS personnel are the instructors on cost of service and financial planning courses offered through the American Public Power Association (APPA) and the National Association of Regulatory Utility Commissioners (NARUC), EUCI, Southern Gas Association and American Water Works Association. UFS' industry leading status has resulted in courses on distributed generation to the US Department of Energy.

These courses include the following:

- a. Basic Cost of Service
- b. Intermediate Cost of Service
- c. Advanced Cost of Service
- d. Financial Planning
- e. Utility Financial Check-up
- f. Cost of Service and Rate Design for Distributed Generation
- g. Development of Line Extension Policies
- h. Rate Structures to promote Energy Conservation
- i. Rate Structures to create Revenue Stability
- j. Advanced issues in Rate Design
- k. Advanced issues in Cost Allocations

### **Similar Past Studies**

In the past 36 months UFS has completed electric cost of service studies for several utilities around the nation of similar scope of services. Utilities listed on the next page vary from small to large public power systems.

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**Electric Client**

Ainsworth NE - KBR Rural PPD	Georgetown Utility Systems TX	Morgan UT	Sitka AK
Algona IA	Grand Electric Cooperative SD	Murfreesboro TN	Smethport PA
APPA	Grand Haven BPW	Muskegon MI	Smithfield NC
Apex NC	Grand River Dam Authority OK	Naperville IL	South Bend Hydro
Arapahoe NE	Groton CT	Nashville TN	South River NJ
Ashland OR	Hamilton NC	New Carlisle IN	South San Joaquin Irrigation District CA
Austin Energy TX	Hannibal MO	New Castle DE	Southern Public Power District NE
Austin MN	Hertford NC	Newberry SC	Stanton NE
Ayden NC	Highland IL	Newton Falls OH	Stillwater OK
Azusa CA	Hillsdale MI	Niles MI	Sturgis MI
Battle River REA - Camrose AB Canada	Holland BPW MI	Niles OH	Tahlequah OK
Bay City MI	Howard Greeley NE	Niobrara Valley NE	Traverse City MI
Bedford VA	Hubbard OH	Norris NE	Turlock CA
Benton County PUD WA	Hudson OH	North Attleborough MA	Twin Valleys NE
Boulder CO	Hurricane UT	North Central Irrigation NE	UAMPS
Brainerd MN	Imperial CA - IID	North Central PPD NE	UPPCO MI
Bryan OH	Independence MO	North Little Rock AR	Wadsworth OH
Burt County PPD NE	Indiana Municipal Power Agency	Northeast Nebraska PPD	Wagoner OK
Butler PPD NE	Jasper IN	Oak Harbor OH	Washington City NC
Cedar Falls IA	Kaysville City UT	Oberlin OH	Washington City UT
Cedar- Knox NE	Kennett MO	Orrville OH	Watertown SD
Charlevoix MI	Kerrville TX	Painesville OH	Waverly IA
Chaska MN	Keys Energy Services FL	Palo Alto CA	West Central CoOp SD
Chelsae MI	Lake Worth FL	Perennial Power District NE	Westerville OH
Clallam County WA	Lebanon IN	Petoskey MI	Westfield MA
CLECO, LLC	Lewes DE	Philippi WV	Winnetka, IL
Cleveland Public Power OH	Lexington NC	Platte River CO	WPPI Energy
CMEEC	Lincoln NE - MEAN - NMPP	Polk County PPD NE	Zeeland BPW MI
Coffeyville KS	Linden IN - Tipmont REMC	Poplar Bluff MO	
Coldwater MI	Lodi OH	Princeton IL	
Colorado Springs CO	Los Alamos NM	Pulaski Electric System TN	
Columbia MO	Louisburg NC	Rancho Cucamonga CA	
Columbia TN	Loup River NE	Rantoul IL	
Conway AR	Loup Valleys NE	Richlands VA	
Cornhusker NE	Loveland CO	Richmond IN	
Custer Public Power District NE	Lowell MI	Riviera Utilities AL	
Cuyahoga Falls OH	Lucas OH	Rochelle IL	
Danville VA	Manassas VA	Rochester MN	
East Norwalk CT	Marquette MI	Rock Falls IL	
Easton MD	Martinsville VA	Rosebud Electric Cooperative SD	
Edmond OK	Mascoutah IL	Roseville CA	
Elkhorn NE	McMinnville OR	Santa Clara UT	
Energy Northwest - Richland WA	Merced Irrigation District CA	Scotland Neck NC	
Ephrata PA	Mesa AZ	Selma NC	
Farmville NC	Milford DE	Seville OH	
Fort Collins CO	Milltown NJ	Seward County NE	
Front Royal VA	Mishawaka IN	Shasta Lake CA	
Fulton County REMC - Rochester IN	Mishawaka IN	Shelby NC	
Gastonia NC	Missouri Public Utility Alliance	Shelby OH	
Geneseo, IL	Missouri River Energy Services SD	Sikeston MO	

**UFS holds a commitment to the following:**

- **Quality Control** - Proper quality control and management help ensure the accomplished work is in alignment with the project scope, is completed timely, within budget and the results are accurate and defensible. The quality controls developed by UFS are specific to utility rate studies and are based on our prior experience working with electric utilities.
- **Timeliness of Studies** - Part of the quality control includes the timely completion of the rate studies. UFS experience in completing studies provides us the ability to complete the studies as requested and discussed in the initial kick-off meeting.
- **Financial Strength** - UFS commenced business in 2001 and has the highest financial rating by Dunn and Bradstreet.
- **Independence** - UFS maintains its independence throughout its engagements to help ensure unbiased recommendations to the governing bodies. We do not provide services that could impair our independence such as engineering, accounting, or auditing services.
- **Diverse Staff Backgrounds** - Proper development of rate studies require knowledge in accounting, finance, economics and engineering. UFS staff has diverse backgrounds that include degrees in accounting (CPA), engineering, finance, economics, information technology and degrees in Water Purification Technology.

**Name and title of primary contact person**

Mark Beauchamp, MBA, CPA, CMA  
 President, Utility Financial Solutions, LLC  
 E-mail - mbeauchamp@ufsweb.com  
 Cell - (616) 403-5450

**Date firm established - UFS was established in September 2001**

**Proposed service team including titles**

Mark Beauchamp, President  
 Dawn Lund – Vice President  
 Dan Kasbohm – Manager  
 Mike Johnson – Manager  
 Chris Lund – Business and Technology Manager  
 Joan Bakenhus – Senior Financial Analyst  
 Jillian Jurczyk – Financial Analyst  
 Robert Blank – Financial Analyst  
 Carolyn Ragusett – Administrative Assistant

**Staff Availability**

UFS has adequate staff available to complete the tasks in the timeline requested in the RFP.

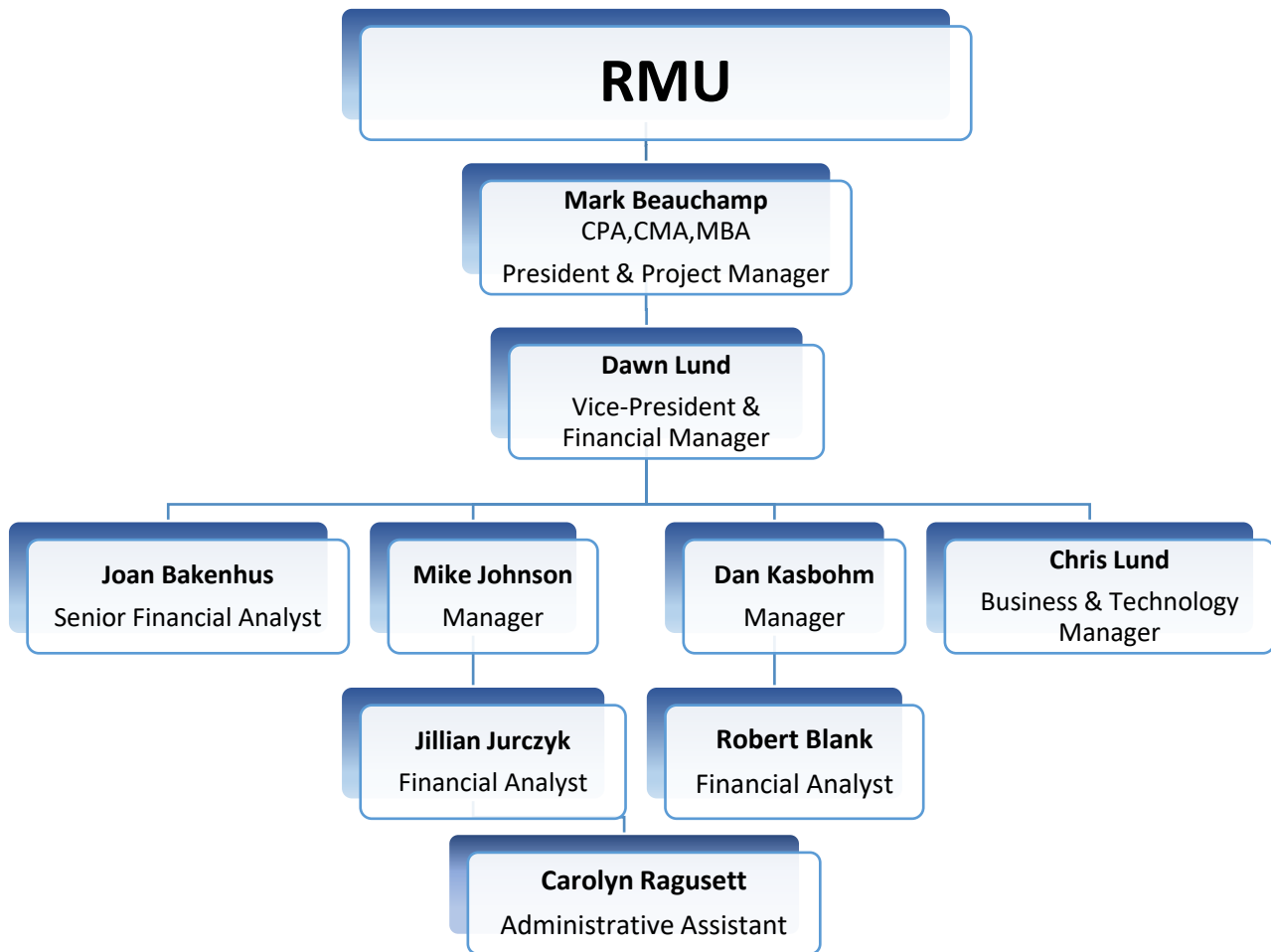
Executive Staff and Office Locations		
<b>Mark Beauchamp</b> <i>President</i> <i>Corporate Office</i>		<b>Dawn Lund</b> <i>Vice President</i> <i>Traverse City Office</i>
185 Sun Meadow Ct		604 S Lake St
Holland MI 49424		Leland MI 49654
Office 616-393-9722		Office 231-256-0092
Cell 616-403-5450		Cell 231-218-9664
<a href="mailto:mbeauchamp@ufsweb.com">mbeauchamp@ufsweb.com</a>		<a href="mailto:dlund@ufsweb.com">dlund@ufsweb.com</a>
UFS – Since 2001		UFS – Since 2004
Industry Experience – 36 years		Industry Experience – 25 years
<b>Dan Kasbohm</b> <i>Manager</i> <i>Grand Haven Office</i>		<b>Mike Johnson</b> <i>Manager</i> <i>Madison Office</i>
14986 Sandstone Road		4901 Hermsmeier Road
Grand Haven MI 49417		Madison WI 53714
Office 616-846-6464		Office 608-230-5849
Cell 616-403-7045		Cell 608-609-6279
<a href="mailto:dkasbohm@ufsweb.com">dkasbohm@ufsweb.com</a>		<a href="mailto:mjohnson@ufsweb.com">mjohnson@ufsweb.com</a>
UFS – Since 2009		UFS – Since 2011
Industry Experience – 10 years		Industry Experience – 25 years

## Project Team Qualifications

### Proposed team members

UFS has put together a project team with the knowledge and experience to successfully meet your requirements and to deliver the report by the agreed upon timeframe. The team has over 100 years of combined experience performing similar studies for utilities. This provides the Utility with the experience to creatively solve financial and operational issues and help ensure financial stability in future years. The project team assigned has three team members located in Michigan plus support services out of Wisconsin and Nebraska. This team has completed cost of service, financial plans and rate design studies in 43 States, Guam and the Caribbean.

The personnel assigned to this engagement are listed below:



### **Staff Availability**

UFS has adequate staff available to complete the tasks in the timeline requested in the RFP.

### Resumes

The next section consists of resumes of the team members assigned to this engagement.



**Mark Beauchamp, CPA, CMA, MBA**

President, Utility Financial Solutions, LLC

*Email:* [mbeauchamp@ufsweb.com](mailto:mbeauchamp@ufsweb.com)

*Cellular:* 616.403.5450

*Location:* Holland, MI

**Education**

- AAS Water Purification Technology
- ABA Business Administration
- BBA Major – Accounting
- MBA Master’s Degree in Business

**Course Instructor**

**American Public Power Association (APPA)**

- Advanced Cost of Service Course (Cash Basis & Utility Basis of Ratemaking)
- Intermediate Cost of Service (Cash Basis & Utility Basis of Ratemaking)
- Basic Cost of Service (Cash Basis and Utility Basis of Ratemaking)
- Financial Planning for Municipal Utilities
- Financial Planning for Board & Councils
- Financial Planning and Rate Setting for Managers (Part of Managers Certificate Program)

**American Municipal Power (AMP)**

- Financial Planning and Rate Designs for Electric Utilities

**Expert Witness Service**

- Detroit Edison vs. Ameritech – Provided expert witness services for Detroit Edison on development of Pole Attachment Rates for Ameritech
- Nebraska State Unicameral – Served as an expert witness before the state of Nebraska Unicameral on Proper rate setting and credits to provide customer installed renewable generation
- Dayton Power & Light – Provided expert witness services on pole attachment rates. Case was resolved prior to Court appearance
- Coldwater Board of Public Works – Provide expert witness services on rate challenge by large industrial customer. Case was dropped after deposition was provided
- Smethport PA – Provided deposition and responses to Pennsylvania Public Service Commission on Rate Filing for Smethport

**License and Qualifications**

- Class “A” license in wastewater treatment from the State of Michigan
- (CPA) Certified Public Accountant – Wisconsin
- (CMA) Certified Management Accountant – Institute Certified Management Accountants

**Course Instructor**

**Michigan State University**

- Advanced Issues in Cost Allocation (Utility Basis of Rate Making)
- Retail Costing and Pricing of Electricity
- Wholesale Costing and Pricing of Electricity

**Southwest American Water Works Association**

**Michigan Rural Water Association**

- Cost of Service & Rate Making for Water Utilities

**Michigan Finance Government Officers Association**

- Cost of Service & Rate Making for Water & Wastewater Utilities

**Industry Involvement**

- Member of the American Public Power Association
- Member of the American Water Works Association
- Member of the Institute of Management Accountants
- Speaker at national conferences on Financial Planning for Municipal Utilities, Pricing for Water Utilities, Pricing Fiber Optic backbone systems, Unbundling Electric Rates, and Ways to Attract and Retain Customers
- Author of articles appearing in national magazines and newsletters regarding pricing fiber optics, training electric rates, and designing water rates

## Dawn Lund

Vice-President, Utility Financial Solutions, LLC



Dawn has 22 years' experience pricing and marketing utility services for electric, water and wastewater. Dawn has worked with UFS for over 10 years and previously worked with a large utility and held positions as Cost and Rate Specialist and Marketing and Communications Specialist. Dawn works with utilities across the country teaching financial concepts and is also the instructor for Financial Planning courses for the American Public Power Association. She is also a regularly requested speaker for various regional and national organizations. Dawn has the following experience:

*Email:* dlund@ufsweb.com

*Cellular:* 231.218.9664

*Location:* Traverse City, MI

### Cost of Service (COS)

- Completed electric water and wastewater cost of service and rate design studies for utilities across the country, Guam and the Caribbean
- Determining appropriate allocations of overhead costs between utility services

### Long-term financial analysis

- Development of long-term sales and expense projections for electric, water, and wastewater utilities
- Development of long-term financial plan and rate track for electric, water, and wastewater

### Presentation/Training

- Presentations to City Councils and Boards for approval of utility rates and proposed rate tracks
- Instructor for APPA's Financial Planning courses
- Monthly presentations to various organizations on topics such as: financial planning, key financial targets, cash policies and how to explain rate increases to the end user, cost of services challenges/solutions, and Introduction to allocation studies

### Rate Design

- Development of electric rate designs to meet financial and social objectives of utility
- Development of special rates for electric utilities including Net Metering, Economic Development and Time of Use

### Other Utility Tools

- Development of power (fuel) cost adjustments for electric utilities
- Development of connection charges for water and wastewater utilities
- Review and recommend changes to ordinances related to utility operations
- Development of fees for utility services
- Business plan development for telecommunications and pricing of fiber services to customers
- Determining high strength surcharge rates for wastewater treatment plants consistent with EPA requirements
- Development of marketing plans for utilities
- Experienced in pricing electric line extension fees and system development charges

## Mike Johnson

Manager, Utility Financial Solutions, LLC



Mike joined Utility Financial Solutions, LLC in 2011 and has over 22 years' experience assisting utilities. He has a Higher National Diploma in Mechatronics (Combined Electrical/Mechanical Engineering). Mike is experienced in cost of service, rate making, financial/operational modeling, automation, electric utility operations, and power supply.

*E-mail:* mjohnson@ufsweb.com

*Cellular:* 608.230.5849

*Location:* Madison, WI

### Cost of Service

- Development of cost of service studies for electric, communication, gas, water and Wastewater utilities
- Forecasts utility revenue requirements
- Cost allocation model development

### Rate Design

- Provides cost of services class allocations and rate making
- Designs time of use rates
- Identify effects for different usage patterns within the same class
- Development of rates for alternative fuels and vehicles
- Evaluate marginal costs and development of line extension policies and economic development rates

### Expert Witness Services

- Prepared and testified on filings to Public Utility Commission

### Long Term Financial Analysis

- Develops utility financial analysis models
- Identifies growth and load forecasting
- Models rate and revenue effect for customer change within utilities (loss of customers/additional load)
- Develops target metrics for utilities including cash policies, operating income, debt coverage

### Other Utility Tools

- Computes cost functionalization and allocation systems for designing and managing complex changes
- Evaluates data and system integration issues associated with new software implementations
- Provides market analysis, bidding and settlement processes analysis
- Identification and valuation of fixed assets
- Assessment of utility value for sales/purchase
- Development of risk mitigation tools, power/fuel cost adjustment mechanisms

## Dan Kasbohm

Manager, Utility Financial Solutions, LLC



Dan joined Utility Financial Solutions, LLC in 2007 and has experience in conducting cost of service and financial analysis for electric, water, wastewater and cable utilities around the nation. He has a Bachelor of Science degree in Engineering and was employed in the automotive industry for 16 years. Dan is a co-instructor for the Basic and Intermediate Cost of Service courses for the American Public Power Association and has the following experience:

*E-mail:* [dkasbohm@mail.ufsweb.com](mailto:dkasbohm@mail.ufsweb.com)

*Cellular:* 616.402.7045

*Location:* Grand Haven, MI

### Cost of Service (COS)

- Identification of fixed/variable costs related to:
  - Customer availability to be served
  - Commodity based costs
  - Demand based costs
- Identification of class to class subsidization
- Utility cost breakdown by function
- Detailed cost unbundling

### Long-term financial analysis & identification of:

- Utility revenue requirements (utility and cash-based methods)
- Debt Coverage conformance
- Minimum cash requirements
- Optimal operating income targets
- Optional rate adjustments in projected years

### Presentation/Training

- Presenting study results to management and governing body of utility
- Provide utility training on use of projection & COS models
- Co-Instructor for the American Public Power Association Academy
  - Basic & Intermediate Cost of Service

### Rate Design

- Current Utility rate structure updates
  - Utility revenue impact
  - Customer bill impacts at various usage levels
  - Identify revenue stability of rates
  - Rate survey analysis
- Development of new rates including:
  - Time of Use (seasonal, daily, hourly)
  - Power Cost Adjustment (PCA)
  - Coincidental-Peak Rates
  - Economic Development rates
  - Street lighting rates

### Other Utility Tools

- Power Cost Adjustment mechanisms based on utility cash position, objectives and dispatch profile
- Street Light Cost of Service by light and pole types
- Load Profile Analysis to identify utility and customer usage patterns
- Power supply forecasting
- Implementation of a justified minimum cash policy
- Calculation of fees for standard utility work
- Development of line extension policies

## Joan Bakenhus

Senior Financial Analyst, Utility Financial Solutions, LLC



Joan has 18 years' experience working with municipal utilities and has a degree in Business Administration. Joan has worked as a Rate Analyst for one of the largest public power systems in the nation (Lincoln Electric System) and for Utility Financial Solutions, LLC since 2006. Joan is experienced in development of long-term financial plans, rate design models and cost of service studies for electric, water, and wastewater utilities. Joan's experience includes:

*E-mail:* [jbakenhus@ufsweb.com](mailto:jbakenhus@ufsweb.com)

*Cellular:* 402.483.2542

*Location:* Nebraska

### Cost of Service (COS)

- Working with Utilities to identify information requirements to complete cost of service and financial plans
- Set up and develop utility revenue requirements, cost of service program and utility revenue proof
- Balancing and set up of models for development of cost of service for water, wastewater and electric utilities to determine commodity and customer charges
- Responsible for analysis, preparation and updating cost of service models for several electric, water utilities

### Rate Design

- Balancing and set up of models for development rate design for water, wastewater and electric utilities to determine commodity and customer charges
- Development of rate design models for electric, Water utilities
- Development of rate surveys

### Other Utility Tools

- Balancing of sales with revenue to help ensure proper billing statistics are used in cost of service models

### Long Term Financial Analysis

- Development of long-term financial forecasts for water, wastewater, and electric utilities to determine the amount and timing of rate adjustments

## Chris Lund

Business & Technology Manager, Utility Financial Solutions, LLC



Chris has a bachelor’s degree in Business Administration with concentration in Computer Science and Speech Communications. He has been a technology and management consultant for over 20 years. Chris is an employee of UFS and has also sub-consulted on a variety of technology projects for UFS since 2003. A few of the highlights are below:

*E-mail:* clund@ufsweb.com  
*Cellular:* 231.342.9798  
*Location:* Traverse City, MI

### Financial Consulting

- Completed cost of service and rate design studies for electric, water, wastewater, telecommunications and refuse utilities
- Designed, wrote and implemented long term financial projection model including revenue requirements and rate track
- Determined avoided cost for solar (photovoltaic - PV) and wind for renewable energy rates
- Lead consultant for electric vehicle (EV) rates and service study
- Conducted multiple fiber optic cost of service and rate design studies
- Presentations to City Councils and Boards for approval of utility rates and proposed rate tracks

### Data Analytics

- Data mining and analysis specialist for electric load data research
- Specialist with data mining, data conversion and custom reporting
- Experienced with various ODBC (database connectivity)
- Implemented job costing solution for manufacturing companies
- Designed, written, implemented, supported multiple, custom bar coding and data collection systems for wholesale distribution and manufacturing organizations
- Data collection systems pushed data to payroll for time and attendance, automated inventory tracking and job costing

### Technology Experience

- Experienced in Microsoft Excel automation – including payroll data, job costing and automated billing (office automation)
- Experienced in Microsoft Access custom database, programming and reporting – including electronic data interchange (EDI) mapping using Microsoft VBA
- Lead consultant for multiple mission critical, corporate wide enterprise resource planning (ERP) technology solutions
- Implemented, trained and supported multiple telecommunications projects
- Implemented and supported some of the first voice over internet protocol (VOIP) telecommuting systems
- Guide management with technology related strategy and business integration
- Modification and complete custom program solutions on midrange and PC
- Wrote automated bill of material (BOM) purchasing forecasting system
- Specify, install and maintain mission critical PC network infrastructure, servers, workstation and related software
- Experienced in network security and virtual private network (VPN) technology
- Implemented and supported web storefronts integrated with corporate backend database solution for inventory management, order processing, billing and account status



**Jillian Jurczyk, MEc.**

Financial Analyst, Utility Financial Solutions, LLC

*E-mail:* [jjurczyk@ufsweb.com](mailto:jjurczyk@ufsweb.com)

*Cellular:* 616.283.8502

*Location:* Holland, MI

Jill has been with UFS since 2013. She has a Bachelor’s degree in Mathematics and a Master’s degree in Applied Economics from Johns Hopkins University. Jill has populated and analyzed cost of service models, developed long-term financial projections, and designed rates for utilities. Jill specializes in econometric modeling and statistical analysis to project sales and usage. She has worked with a variety of econometric software packages and is competent in handling seasonality, trend, heteroscedasticity, and other economic inefficiencies that arise in data analysis. Jill is skilled in the following:

- Forecasting Utility revenue requirements
- Projecting revenues and expenses, asset depreciation, and net book value
- Designing rates based on Cost of Service results
- Analyzing rate payer impacts and sensitivities
- Working with Utility Staff to identify study goals and understand organization
- Keeping up to date on the current economic impacts of renewable energy, the relationship to the Clean Power Plan legislation, and potential effects on the Electric Industry



**Robert Blank**

Financial Analyst, Utility Financial Solutions, LLC

*E-mail:* [bblank@ufsweb.com](mailto:bblank@ufsweb.com)

*Cellular:* 616.403.9926

*Location:* Holland, MI

Robert has been working for Utility Financial Solutions, LLC since May of 2014 and has a Bachelor’s of Business Administration with a major in Finance from Davenport University. Over his time at UFS he has conducted Utility rate surveys as well as developed rate designs. Robert has experience with long term financial projections and cost of service studies for Electric, Water, Wastewater, and Gas utilities. Robert’s experiences include:

- Developing rate design models for electric utilities
- Conducting Rate Surveys
- Responsible for analysis of financial statements and preparation of cost of service models
- Working with utilities to identify the information needed to conduct an accurate cost of service study
- Calculating Minimum Cash Reserve levels, Target Operating Income, and Debt Coverage Ratios



## **Carolyn Ragusett**

Administrative Assistant, Utility Financial Solutions, LLC

*E-mail:* [cragusett@ufsweb.com](mailto:cragusett@ufsweb.com)

*Cellular:* 920.450.0577

*Location:* Neenah, WI

Carolyn has been working for Utility Financial Solutions, LLC since May 2018 and has 47 years of office industry experience. For 27 years Carolyn was the Office Administrator for a large accounting firm in Wisconsin where she supervised office support staff. She additionally served 9 years as the tax department administrative officer and maintained the tax library. Carolyn is skilled in the following:

- Managing and organizing workflow scheduling
- Performance reviews
- Office support and coordinating office activities
- Client correspondence
- Billing, Invoicing, and Collections
- Communication Review of office correspondence and materials
- Valuation Reports

## References

### **City of Rock Falls, Illinois**

*Client Contact:* Paul Jakubczak, Electrical Director  
*Phone* 815-622-1145



#### **Study Overview**

Conducted an electric cost of service and unbundling study, rate design, development of power cost adjustment. Services have been provided since 2008.

#### **Study Specifics**

- Review revenue and expense projections and recommend revenue requirements
- Determine appropriate rate of return on utility assets
- Review minimum cash reserve level
- Calculate debt coverage ratio
- Determine rate adjustments for five-year planning
- Review customer classes
- Perform cost of service analysis
- Review unbundling costs

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### **Naperville Electric Department, Illinois**

*Client Contact:* Mark Curran, Electric Director  
*Phone* 630-305-5934  
*Email:* [curranm@naperville.il.us](mailto:curranm@naperville.il.us)



#### **Study Overview**

UFS completed a long-term financial projection, cost of service and rate design study in 2015 and are currently completing specialized rate designs including time of use.

#### **Study Specifics**

- Development of time of use rate structures
- Long-term financial plan and rate track
- Review and recommendations for power cost adjustment
- Identification of minimum cash reserves
- Rate design for all rate classes
- Identification of financial goals and targets
- Presentation to Board of Directors and City Council
- Project completed in 6 months

## ***Village of Rantoul Electric Department, Illinois***

*Client Contact:* Greg Hazel, Electric Utility Director  
*Phone* 217-892-2178



### **Study Specifics**

- Develop a long-term financial plan to assist in identifying the amount and timing of future rate adjustments. The financial projection included development of key financial targets
- Cost of providing electric service to each class of customer
- Unbundle rates to determine:
  - Charges to each customer class for power supply broken down by demand, energy and season.
  - Charges to each customer class based on the voltage served for each customer and included secondary, primary, sub-transmission and transmission voltage levels.
  - Monthly customer charges to each customer class
- Review utility rate classes and recommend additional rate classes or alternative rate forms for existing customer classes.
- Present results of study to management and Village Board
- Design electric rates

## Project Schedule

Our experience with municipal electric cost of service and rate design studies, allows us to conduct a cost effective and efficient study. The following is the tentative project schedule for completion of the electric cost of service and rate design. This schedule will be finalized during the initial project kick-off meeting with management.

<i>Task</i>	<i>Expected Completion – Twelve Weeks</i>
Initial Meeting – Preparation of Information Request	Week One
Completion of Information Request by Client	Week Two
Planning/Set-up Models	Week Three – Five
Review and Development of Revenue Requirements	Week Six – Seven
Fieldwork	Week Eight
Cost of Service Analysis Component/Functional Costs	Week Nine
Cost based Rate Design and alternatives	Week Ten
Report, Recommendations & Presentation of Draft	Week Eleven
Final Report	Week Twelve

The completion of the project on the proposed schedule is dependent on the cooperation of various departments within the Utility to prepare the information request in a timely manner.

## Project Fees

Financial Projection, Cost of Service, Rate Design	\$ 24,900.00
Electric Vehicle TOU Rate for Residential	\$ 5,500.00*
City Owned Car Charging Station	\$ 2,000.00
Modify Small Commercial Rate	included in rate design
Transmission Cost Analysis	\$ 500.00
Discount Rate for Poverty Level Customers	\$ 1,500.00

\*Quoted cost is based on anticipated work hours. Actual hours will be billed at hourly rates listed below.

*Prices, terms, and conditions are good for a period of 90 days from this date. Payment will be made through submission of invoice which itemizes the work performed.*

### Out of Scope Services – on-site and travel expenses

Out of Scope services will be billed at the hourly rates listed below. Any out of pocket expenses will be billed at cost.

<b>Name</b>	<b>Title</b>	<b>Hourly Rate</b>
Mark Beauchamp	President	\$320.00
Dawn Lund	Vice President	\$275.00
Dan Kasbohm	Manager	\$245.00
Mike Johnson	Manager	\$245.00
Chris Lund	Business and Technology Manager	\$210.00
Joan Bakenhus	Senior Financial Analyst	\$145.00
Jillian Jurczyk	Financial Analyst	\$135.00
Robert Blank	Financial Analyst	\$115.00

In addition, travel time will be billed at 50% off regular rates.

## Proposed Professional Services Agreement

Prices, terms, and conditions are good for a period of 90 days from proposal date of February 27, 2020. Payment will be made through submission of invoice which itemizes the work performed.

**Estimated project fees for Scope of Services are \$34,400.00**

**Anticipated Meetings:**

- Initial meeting – Conference Call to clarify scope of services, expectations of management and preliminary information request
- Fieldwork – Conference Call to verify data provided
- Draft Report with management - Conference call
- Final Report with management – Conference call

**Hourly Rates** *(travel is discounted at 50%)*

Mark Beauchamp	\$ 320.00
Dawn Lund	\$ 275.00
Dan Kasbohm	\$ 245.00
Mike Johnson	\$ 245.00
Chris Lund	\$ 210.00
Joan Bakenhus	\$ 145.00
Support Staff	\$ 115.00 – 135.00

**Deliverables:**

- 1) Long-term financial projection and rate track
- 2) Cost of Service Analysis
- 3) Minimum cash reserve determination
- 4) Debt Service Ratio
- 5) Target operating income (rate of return)
- 6) One-year rate design & revenue proof
- 7) Electric vehicle TOU residential rate
- 8) City owned car charging station rate
- 9) Discount rate for customers at or below poverty
- 10) Modify small commercial rate (may be completed prior to COS completion)
- 11) Transmission cost analysis

**Onsite Meetings**

Any requested and approved onsite presentation will be billed at hourly rates with a 50% discount on related travel time. Out of pocket travel expenses are billed at cost. All costs incurred from schedule changes initiated by client after booking will be considered out of pocket.

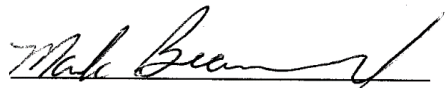
**Out of Scope Pricing**

Out of scope items and work hours will be billed at the hourly rates listed on this page.

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We look forward to exceeding your expectations. Please sign, date, and return to [clund@ufswb.com](mailto:clund@ufswb.com) at your earliest convenience.

Sincerely,



Mark Beauchamp, CPA, MBA, CMA  
 President, Utility Financial Solutions, LLC

**Date:**

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**Accepted By:**

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Rochelle Municipal Utilities