Cost of Service and Rate Study
for
Pedernales Electric Cooperative, Inc.

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
PEC	Pedernales Electric Cooperative, Inc.
4 CP	Four Coincident Peaks
AMI	Advanced Metering Infrastructure
AMR	Automated Meter Reading
CP	Coincident Peak
DCU	Data Collection Unit
DG	Distributed Generation
ERCOT	Electric Reliability Council of Texas
kW	Kilowatt
kWh	Kilowatt-hour
NCP	Non-Coincident Peak
RF	Radio Frequency
SAC	Service Availability Charge
TOU	Time-of-Use
TCRF	Transmission Cost Recovery Factor
TCOS	Transmission Cost of Service
TWACS	Two Way Automated Communication System

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1.0 EXECUTIVE SUMMARY

Pedernales Electric Cooperative, Inc. (PEC) requested that 1898 & Co. prepare an updated cost of service and rate design study for the cooperative. The Study included the development of a test year revenue requirement, a class cost of service analysis, and review of rate design initiatives being proposed by PEC. PEC prepares cost of service studies every three years as required by their internal rate policy. The results of the cost of service and rate design study serve as an input to PEC's long-term rate plan which was concurrently prepared by 1898 & Co.

PEC has historically adjusted its retail electric rates to reflect changes in the cost it incurs to provide electric service to its members. PEC has periodically adjusted its rate schedules, or created new rate classes as the need has arisen due to an identified variation in cost to serve members within a particular rate class. Additionally, PEC has incorporated new offerings for customers so that they can save such as electronic billing.

PEC has continued to experience considerable growth in new membership and energy sales over the past decade. Most of this growth has occurred in the PEC service area surrounding the City of Austin. This area is more densely populated than the rural areas PEC serves and has allowed PEC to keep its controllable costs on a per meter basis relatively constant. As a result, the cost of providing distribution service to members and revenue requirement has remained flat even when considering inflation.

PEC is in ERCOT and has been managing its power supply cost well by purchasing power from both LCRA and other various power purchase agreements. PEC has been able to manage this cost at a level such that the total power charges to customers (base power cost and power cost adjustment) have remained relatively flat. PEC also incurs ERCOT transmission cost based on its 4 coincident peak (4 CP) demands during the summer. Over the last 5 years PEC has recovered its transmission cost through current rates which has varied only slightly year to year keeping cost stable for PEC customers.

As part of this study, PEC desires to make adjustments to several of its rate classes and schedules to better align with its cost to provide service. These include class consolidation, elimination of several classes, and some minor adjustments to several rate schedules which in total do not materially increase or decrease overall revenues to PEC.

1.1 Study Results and Recommendations

Based on the analyses and rate reviews completed as a part of this study, the following findings and recommendations are provided below for 2020 and 2021.

- Based on an examination of the financial forecast and test year revenue requirement, PEC adequately collects on a system level to recover it's costs.

- The updated class cost of service analysis indicates that several classes are either over recovering or under recovering. Recommendations to resolve these issues will be addressed later in this report.
- The cost to provide service to each customer class was considered along with the long-term rate plan to develop consolidated rate classes for the future where supported by this study. This is further explained in the cost of service section and rate design section of the report.

Recommendations

- PEC should eliminate the Water Well rate class and place those customers into the Residential class.
- PEC should provide all customers not in the new transmission class or unmetered classes the option to receive primary service.
- PEC should remove the college discount rider from the tariff.
- PEC should removal the revenue adjustment factor (RAF).
- PEC should create a single transmission service class available for all uses and sizes or members receiving transmission level service.
- PEC should implement a new cost-based rate structure for Large Power members.
- PEC should create a new unmetered non-lighting class.
- PEC should ensure that the TOU shapes reflect current energy costs.

2.0 INTRODUCTION

PEC requested that 1898 & Co. prepare an updated cost of service and rate design study for the cooperative. The Study included the development of a test year revenue requirement, a class cost of service analysis, and review of rate design initiatives being proposed by PEC. PEC prepares cost of service studies every three years as required by their internal rate policy. The results of the cost of service and rate design study serve as an input to PEC's long-term rate plan which was concurrently prepared by 1898 & Co.

The first phase of the Study completed for PEC was the determination of the annual revenue requirement. This annual revenue requirement is used as the basis for the subsequent phases of the study including the cost of service and rate design. The development of the revenue requirement determines if PEC is recovering its cost and generating a reasonable return on rate base while maintaining other financial targets. This includes the development of revenues, expenses, and other financial projections which were prepared by PEC and used in the study analyses. The test year revenue requirement also incorporated various inflight rate changes such as the removal of the PCA, removal of the water well rate, and fee revenue changes.

The second phase of this Study was the development of the class cost of service analysis. The class cost of service analysis is the process of determining the cost responsibility of each member class and is used to determine how much rate revenue should be recovered from each member class. The class cost of service also calculates the costs to provide different types of services to each of PEC's member classes such as energy, transmission, distribution, and customer services. The adjusted test year revenue requirement for FY 2020 developed from PEC's financial forecast, is used as the basis for the cost-of-service analysis. The cost of service analysis results provides cost-based support for PEC's planned rate design initiatives.

The final phase in the Study is rate design and development. With PEC's installation of new metering infrastructure the ability to send a more accurate price signal and thus cost based rates is now available. PEC is currently in the process of developing a Long-Term Rate Plan. The plan proposes multiple initiatives that are proposed to be carried out over the next 5 years. This Cost of Service and Rate Study serves as one input into that plan and provides supporting evidence for several of the key rate design initiatives that PEC is planning for 2020 and 2021.

As part of this Study scope of work, PEC requested that all retail rates and cost recovery mechanisms are reviewed for alignment with the cost to provide service. Within the study, the PEC developed rate initiatives were reviewed, benchmarked, and supported and then incorporated into PEC's long-term rate plan.

3.0 COST OF SERVICE ANALYSIS

3.1 Revenue Requirement Analysis

The first phase of the Study completed for PEC was the determination of the annual revenue requirement. This annual revenue requirement is used as the basis for the subsequent phases of the project including the cost of service and rate design.

To determine the annual revenue requirement, PEC prepared an updated financial forecast to use for this analysis. PEC requested that the Study use a 2020 budget test year. Within the financial forecast model, projections were made of operating revenues, operation and maintenance (O&M) expenses, depreciation expense, interest expense, etc., for each fiscal year. These projections are based on certain assumptions prepared by PEC.

The projections developed in the financial forecast model are summarized in pro forma statements which include a net income statement, statement of cash flows, and balance sheet. The financial model includes supporting information that reflect the detailed projections of each element. The annual revenue requirement is determined from these pro forma statements.

Based on a review of the 2020 test year annual revenue requirement and most recent 3 years, PEC is generating rate revenues sufficient to meet its financial targets. PEC manages its financials by tracking several ratios and values including its net margins, return on rate base, debt service coverage, TIER, and equity as a percentage of assets. PEC is also continually managing its capital credit repayments and considers this when determining if rates are sufficient over the next 5 to 10 years. Implementing a rate revenue decrease or increase is not required at this time to meet PEC's annual revenue requirement, however, could be in the future.

As part of this Study, PEC also requested that several test year adjustments be made to the 2020 test year revenue requirement. The adjusted test year is presented in **Table 1**. The adjustments considered within this study include the following items. No other adjustments were included in the test year.

- Elimination of the college discount and water well classes.
- Reduction of base power revenue by $0.001/kWh.
- Adjustments to miscellaneous fees and other revenues.

Table 1: Test Year Income Statement

	2020	Test Year Adjustments [1]	Adjusted Test Year 2020	Rate Change	Adjusted Test Year With Rate Change 2020
Projected Income Statement					
Operating Revenues					
Operating Revenue - Retail Rates	653,216,158	**(6,059,281)**	647,156,878	-	647,156,878
Operating Revenue - Rate Adjustment [1]	-		-	-	-
Operating Revenue - PCA (over) under collect	-		-	-	-
Operating Revenue - Unbilled Revenues	-		-	-	-
Operating Revenue - Other Revenues	31,703,657	**(1,600,000)**	30,103,657	-	30,103,657
Total Revenue	684,919,815	(7,659,281)	677,260,535	-	677,260,535
Operating Expenses					
Purchased Power	(399,797,378)	**6,185,256**	(393,612,122)	-	(393,612,122)
Transmission Operations	(3,235,041)		(3,235,041)	-	(3,235,041)
Transmission Maintenance	(3,794,659)		(3,794,659)	-	(3,794,659)
Distribution Operations	(46,101,098)		(46,101,098)	-	(46,101,098)
Distribution Maintenance	(22,778,097)		(22,778,097)	-	(22,778,097)
Consumer Accounts	(29,333,858)		(29,333,858)	-	(29,333,858)
Customer Service & Information	(4,608,936)		(4,608,936)	-	(4,608,936)
Economic Development	(1,917,743)		(1,917,743)	-	(1,917,743)
Administrative & General	(29,007,677)		(29,007,677)	-	(29,007,677)
Depreciation	(62,601,730)		(62,601,730)	-	(62,601,730)
Tax Expense	(1,088,910)		(1,088,910)	-	(1,088,910)
Total Operating Expenses	(604,265,126)	6,185,256	(598,079,870)	-	(598,079,870)
Operating Margin	80,654,689	(1,474,025)	79,180,664	-	79,180,664
Interest Expense					
Interest on Long - Term Debt	(37,141,413)		(37,141,413)	-	(37,141,413)
Interest Charged to Construction	(1,500,064)		(1,500,064)	-	(1,500,064)
Interest Expense - Other	139,360		139,360	-	139,360
Interest Expense - Total	(38,502,117)	-	(38,502,117)	-	(38,502,117)
Margins After Interest	42,152,572	(1,474,025)	40,678,547	-	40,678,547
Other Income (Expense)					
Interest Income - Other	-		-	-	-
Other Capital Credits	2,110,000		2,110,000	-	2,110,000
Other Income (Expense)	(125,070)		(125,070)	-	(125,070)
Net Margins	44,137,502	(1,474,025)	42,663,477	-	42,663,477
Financial Ratios					
Debt Service Coverage					
Margins Avail. for Debt Service	163,006,613		143,767,324		143,767,324
Total Debt Service	86,986,607		78,924,506		78,924,506
Debt Service Coverage Ratio	1.87		1.82		1.82
TIER Operating	2.09		2.06		2.06
TIER Net	2.15		2.11		2.11
Equity as Percent of Assets	40.47%		40.47%		40.38%
Return	80,654,689		79,180,664		79,180,664
Rate Base	1,779,023,363		1,779,023,363		1,586,781,769
Return on Rate Base	4.53%		4.45%		4.99%

3.2 Cost of Service Analysis Results

The second phase of this Study was the development of the class cost of service analysis. The class cost of service analysis is the process of determining the cost responsibility of each member class and is used to determine how much rate revenue should be recovered from each member class. The class cost of service also calculates the costs to provide different types of services to each of PEC's member classes such as energy, transmission, distribution delivery, and customer services. The adjusted test year revenue requirement for FY 2020 developed from the financial forecast, was used as the basis for the cost-of-service analysis.

Each component item of the FY2020 test year revenue requirement, which was classified and assigned to various functional utility services, was allocated to the appropriate member rate classifications using allocation factors developed in the Study. The allocated amounts were summarized for each class.

The members who choose to purchase their power cost under the time-of-use (TOU) base power rate option are embedded in the totals for each class. This analysis indicates the extent to which the revenues generated from existing rates for each class would either exceed or fall short of the corresponding revenue. The results show the current conditions of how revenues are generated in comparison to how costs are incurred among classes.

In addition to the overall under or over recovery by class the cost of service provides an indication on the overall level of each component within the cost of service.

3.3 Cost of Service Results Review

In addition to determining the overall need for an increase or decrease by rate class, the cost of service analysis results provide insight into several key issues that exist within PEC's existing rate structure and cost recovery methods. While PEC is currently whole from a utility perspective there are inequities amongst the members within the class's and between classes. Several of the key observations are enumerated below.

3.3.1 Residential Class Under Recovery and Rate Alignment

The Residential Class rate structure is slightly under recovering its annual revenue requirement however not to such a degree that would necessitate a rate change.

3.3.2 Small Power Over Recovery and Rate Alignment

The Small Power class is currently over recovering. The cost to provide delivery and customer service to 1-phase members is similar to the Residential 1-phase members which supports potentially merging the two classes together in the future. The cost to provide service to 3-phase members is slightly higher and helps contribute to the overall higher cost for the total class as does a small subset of small power members that are above 50 kW but below the 75 kW threshold for inclusion in the Large Power class. A

3-phase service cost differential of $10 per month is supported from a cost standpoint and should be implemented into future tariffs once Residential and Small Power are combined. Additionally, moving the Large Power class service distinction from 75 kW to 50 kW is supported from a accost standpoint and should be implemented into future tariffs along with the other Large Power recommendations below.

3.3.3 Large Power Rate Alignment

The Large Power class consists mainly of 3-phase members who receive both secondary and primary service over 75 kW. The existing capacity demand and energy delivery charges are currently used to recover PEC's distribution demand costs. To recover cost more equitably and provide an accurate price signal, PEC should recover its distribution delivery costs with only a demand charge. Additionally, 4CP based TCOS recovery is needed for this rate class to equitably recover transmission costs.

3.3.4 Interconnect Members Under Recovery and Rate Alignment

PEC's Residential Interconnect class has grown to over 4,000 members and is expected to continue to grow rapidly in the future. This class is being heavily subsidized under the current low service availability charge and high delivery charge rate structure. Members with solar are avoiding the majority of PEC's delivery charge recovery mechanism however still use the distribution system during the early morning and late afternoon peaks when solar is not generating energy. PEC must begin to charge these members differently than it does today by use of a demand-based delivery charge.

3.3.5 Transmission Service Members

PEC has three classes that receive transmission service and pay for their wholesale power and transmission cost directly. PEC should send similar price signals for the same service by combining these rates into a single Transmission Class.

3.3.6 ERCOT Transmission Recovery

PEC's members are currently charged for ERCOT transmission costs (TCOS) on a dollars per kWh basis. The 2020 test year TCOS for the system is $0.0130 per kWh however some members contribute more to PEC's 4CP than others and have an allocated cost higher than the average. All of PEC's classes are receiving inaccurate TCOS pricing signals and should use a 4CP demand-based rate structure once metering and billing systems are capable.

4.0 COST OF SERVICE RECOMMENDATIONS

In coordination with the concurrently prepared PEC Long-Term Rate Plan, this study considered several key initiatives that PEC is planning to pursue over the next several years. In place of rectifying the subsidies amongst the existing rate classes, PEC desires to make several rate class consolidations and modernize some of its structures such that the rate schedules are based on the type of service provided rather than the type of use occurring behind the meter. These initiatives are enumerated below.

4.1 Merge Residential and Small Power Service into New General Service Class

PEC can roll the Small Power members into the Residential class rates while keeping revenues nearly constant. Additionally, the cost to serve a single-phase and three-phase member is nearly the same for Residential and Small Power. Once Small Power members are rolled into the Residential rates, they will be able to also enjoy some of the bill discounts such as the edraft, ebilling, and esaver billing options.

4.2 Implement Three-Phase differential within the New General Service Class

Once PEC consolidates the Residential and Small Power classes it should establish a service availability charge differential to account for the higher cost to serve a three-phase member. Based on the cost of service analysis, the cost to serve a three-phase member is nearly $10.00 more per month than a single-phase member. This difference is primarily attributed to the higher cost of three-phase distribution extension lines over single-phase extension lines. A three-phase differential is common in the utility industry and with other Texas cooperatives.

4.3 Merge All Under 50 kW Interconnect Members into General Service Interconnect Class

To provide cost based rates indiscriminately to PEC members, PEC should plan to consolidate all its solar interconnect members under 50 kW into a new General Service Interconnect Class within the next 1 - 2 years. PEC is adding approximately 1,200 interconnect members per year and PEC's volumetric energy price structure is causing a significant under-recovery from these members which places upward pressure on all other members' rates. In other words, non-solar members are paying for solar members' grid infrastructure. PEC must begin to implement rates that adequately recover PEC's distribution infrastructure cost and fairly compensate solar members for the power they are using and avoiding on a time-of-use basis. This is further elaborated on in the Rate Design section of this report.

4.4 Consolidate Start Up Power and Transmission

PEC should establish a Transmission rate class that can be used for all future members regardless of their size and end use. Transmission service should be offered to all types of members connecting at transmission voltage and purchasing wholesale power regardless of their end use and size.

4.5 Eliminate the College Discount Class

The college discount rider provides a 20 percent discount on all delivery and service availability charges. Offering this discount is not cost based and is no longer required by the State of Texas. All these members should be rolled into the appropriate rate class.

4.6 Eliminate the Water Well class

Based on an examination of the cost of service, the water well class should be rolled into the existing Residential class and then into the new General Service class. The existing service availability charge differential of $3.00 per month is not supportable from a cost of service standpoint for single-phase or three-phase Water Well members when compared to the Residential and Small Power Classes. Further, these members will be able to also enjoy some of the bill discounts such as the edraft, ebilling, and esaver billing options.

4.7 Consolidated Class Summary

The existing and consolidated classes as well as the cost recovery in the consolidated classes are presented in Table 2. The consolidated classes cost of service summary presents the cost to provide service by component for each class.

Table 2: Consolidated Classes

Existing Class	Consolidated Class
Residential Small Power Water Well College Discount - Small	General Service
Residential Interconnect Small Power Interconnect College Discount - Small Interconnect	General Service Interconnect
Large Power College Discount - Large	Large Power
Large Power Interconnect College Discount - Large Interconnect	Large Power Interconnect
Start Up Power Transmission	Transmission
PEC Owned Security Lighting	PEC Owned Security Lighting

[1] Large Power includes primary and secondary members.
[2] Transmission class will include all three existing transmission members.

5.0 RATE DESIGN AND PLAN

PEC is currently in the process of developing a Long-Term Rate Plan for its retail member classes. The plan proposes multiple initiatives that are proposed to be carried out over the next 5 years. This Cost of Service and Rate Study serves as one input into that plan and provides supporting evidence for several of the key rate design initiatives that PEC is proposing. This section of the Report provides a review of some of the findings within the cost of service section as well as several other rate design proposals being developed by PEC.

5.1 Existing Classes

PEC generally classifies its members under several classes based on their end use and size. Within these classes, members can choose to receive service under various forms including the voltage level (secondary, primary, transmission), the phase (single or three phase), the method of power cost recovery (flat or time-of-use), renewable energy content (renewable rider or cooperative solar), and method of billing (esaver, ebilling, edraft). The existing Residential, Small Power, and Large Power member classes also have the option of interconnecting onsite solar and generating energy onsite. The existing classes and service options offered to each class are presented in Table 3.

Table 3: Existing Classes and Service Types

	Base Power Flat	Base Power Time of Use	Wholesale Direct Cost	Transmission COS Energy Charge	Transmission COS 4CP Charge	Secondary Service	Primary Service	Transmission Service	1 Phase Service	3 Phase Service	esaver, ebilling, edraft	Renewable Rider	Cooperative Solar	College Discount	Interconnect (Solar)
Residential	Available	Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Available	Available	Available	Frozen	Not Available	Available
Water Well	Available	Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Available	Available	Available	Frozen	Not Available	Available
Small Power	Available	Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Available	Not Available	Available	Frozen	Available	Available
Large Power	Available	Available	Not Available	Available	Not Available	Available	Available	Not Available	Available	Available	Not Available	Available	Frozen	Available	Available
Start Up Power	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available
Industrial	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available
Transmission	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available
Unmetered Lighting	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

5.2 Rate Design Initiatives

PEC has several short-term and long-term initiatives it would like to accomplish over the next 5 years. Over the long term, PEC generally desires to move towards serviced based rates that are based on the type of service provided (secondary, primary, transmission) rather than the type of end use behind the meter (Residential, Water Well, Small Power, Industrial). PEC also desires to provide service options to members who desire to receive or purchase electricity differently and charge based on the type of service received.

A summary of short-term rate initiatives implemented in 2020 are listed below and further described in the following subsections of this report:

- Eliminate the Water Well rate class
- Provide all members the option to receive primary service
- Create a new unmetered non-lighting class

A summary of short-term rate initiatives for 2021 are listed below and further described in the following subsections of this report:

- Removal of college discount rider
- Removal of revenue adjustment factor (RAF)
- Creation of a single transmission service class available for all uses and sizes
- Development of cost-based rate for Large Power
- Development of cost-based rate for interconnect members
- Updating of TOU energy shapes and implementation of annual review process

A summary of longer-term rate initiatives to be considered for implementation are listed below and further described in the PEC 2020 Long Term Rate Plan report:

- Merge Small Power into Residential structure and create new General Service class
- Implement a cost differential between single-phase and three-phase service in General Service class
- All General Service members pay a transmission 4 CP rate and base power TOU rate
- All General Service members pay a distribution demand charge in place of the existing distribution energy charge for distribution system cost recovery.

5.3 2020 Rate Design Initiatives

5.3.1 Eliminate the Water Well Class

The existing Water Well class is being rolled into the Residential class in 2020 and ultimately into the new General Service class. Water Well members' cost of service is generally the same as a Residential member. Water Well's SAC of $19.50 per month is only $3.00 per month less Residential's SAC of $22.50 per month. Once Water Well class is combined with the Residential class, they will be able to receive the optional billing discounts. These members can also receive the same options as other

Residential members such as TOU rates, renewable riders, and primary service when desired. As a part of this Study, other utilities were surveyed, and it was found that most other regional cooperatives did not have a separate rate class for water well service.

5.3.2 Provide Primary Service Option to All Members

PEC will be offering a 2.0 percent primary service discount to all members beginning in 2020. New Residential and Small Power members, who will be consolidated into a new General Service class, will be able install their own transformers and service drops and receive service at primary voltage. These members will receive a 2.0 percent discount on volumetric energy charges and demand charges similar to what Large Power primary members see today. A typical Residential class member using 1,200 kWh per year who elects to pursue this option will realize energy charge savings of approximately $2.00 per month. While PEC does not expect many existing or future members to select the primary service option, it allows members the opportunity to receive and pay for service based on voltage level. Providing a primary service discount to Residential rate classes is not common and most will not select this service however small power and general service classes will be provided this option.

5.3.3 Create New Unmetered Non-Lighting Class

PEC has telecommunication companies that are planning to install unmetered devices on its existing utility poles and streetlights. These devices are being installed to support new LTE networks. When these devices are installed the member pays for the service connection from the device to PEC's secondary voltage interconnection point. These devices are very low users of electricity ranging from a low of 73 kWh per month to a high of 365 kWh per month.

PEC does not have a tariff in place to accurately charge these unique loads. These unmetered devices do not require additional line extensions and when grouped together in accounts the administrative burden to invoice multiple devices is very low. The cost to provide service to these unmetered non-lighting devices was examined within this study to develop a series of rates for each device. The unmetered devices' fixed customer cost, which is typically recovered through a SAC, is minimal. The distribution, transmission, and power cost charges are based on the cost to provide service to these devices as described below.

- Service Availability Charge: The SAC will be charge on a per account basis. Up to 150 devices can be place onto a single account and are proposed to be billed as a Small Power member at $37.50 per month until the Residential and Small Power classes are merged.
- Delivery Charge: The devices are assumed to have a 100% load factor whereas lighting has a 50% load factor. The cost to provide delivery service to this 100% load factor device is $0.0105 per kWh whereas lighting is $0.021 per kWh.

- Base Power: The base power charge for all unmetered devices will be the same as all other secondary service members.
- Transmission: The transmission charge for unmetered non-lighting members will be the same as all other secondary service members. Unmetered lighting will not be charged for Transmission.

5.4 2021 Rate Design Initiatives

5.4.1 Remove College Discount Rider

PEC is no longer legally required to offer a 20.0 percent college discount rider on its delivery charges to colleges in its service territory. The college discount rider cannot be supported based on PEC's cost of service and should be removed from the tariff.

5.4.2 Remove Revenue Adjustment Factor

PEC management and staff are planning to remove the revenue adjustment factor (RAF) from the rates. The RAF was implemented several years ago to provide immediate compensation back to existing members in years where net margins were greater than anticipated or required as opposed to implementing a full rate decrease across all rate schedules. Utilizing the RAF on an ongoing basis, however, can distort the compensatory method of PEC's capital credit policy and reduce the effectiveness and equitability of returning margins to members. As a part of this Study, other utilities were surveyed, and it was found that other regional cooperatives were not utilizing a RAF for providing ongoing or short-term rate relief to their members. Many utilities will provide one-time bill credits for large one-time cost reductions however it is not the means used to manage margins and the utility's target revenue requirement.

5.4.3 New Transmission Service Class

There are currently three different rate schedules for members receiving service at transmission voltage (69 kV+). New members desiring to receive service at transmission do not have a clear rate schedule they would belong to. To provide service based rates to all potential types of members, PEC should consolidate its three existing transmission classes into a single Transmission class.

5.4.4 Large Power Cost Based Rate

PEC is planning to implement a cost-based rate for members in the Large Power class. Large Power generally consists of three-phase members each with a minimum demand of 75 kW. PEC is already technically capable of providing a cost-based rate that reflects how PEC incurs its power costs, transmission cost, distribution cost, and customer cost. This cost-based rate structure will lay the foundation for all of PEC's members in the future.

The threshold for demand to place a member into the Large Power class should be lowered from 75 kW to 50 kW. The rate structure and recovery align much more accurately for loads above 50 kW to be demand based recovery as with the current Large Power class.

For power cost recovery, the Large Power members will be able to continue to select the TOU rate option that reflects PEC's time variant power supply cost. This option already exists today for Large Power members. The long-term rate plan assumes that all Large Power members will be placed on the TOU rate.

For transmission cost recovery, PEC will offer a 4 CP demand rate to recover member's contribution to PEC's 4 CPs in place of the existing transmission energy rate. PEC pays for its share of the ERCOT transmission system based on its 4 CP system demand. This method is already used by PEC to recover cost from its Transmission members and is used by many utilities in Texas for recovering transmission cost from large members. This 4CP TCOS rate will be the default rate for recovering transmission cost from Large Power members.

For distribution recovery, PEC is proposing to recover its distribution infrastructure costs based on a demand delivery charge structure only rather than a combination of demand and energy delivery charges. PEC's distribution system is designed to accommodate large members non-coincident peak loads which typically occur during the daytime hours. PEC should design its delivery rates to recover costs the same way it incurs them as described in the long-range rate plan. The demand rate would be set to recover the cost to access the distribution system. This rate may include a ratcheted component for the recovery of local fixed distribution facilities. PEC would not experience an increase or decrease in delivery revenues. This change will fairly reward those members who manager their load and contribution to system demand.

Finally, the customer cost to serve Large Power members are lower than the existing SAC. While the SAC is a small component of Large Power members' bills, it should be adjusted to reflect service-based cost.

5.4.5 Interconnect Member Cost Based Rate

PEC has separate Interconnect classes for those members who install solar or other parallel operating generation. PEC is planning to consolidate the Residential and Small Power class consolidate into one General Service class in the future. In the same manner, the Interconnect classes can consolidate into one General Service Interconnect class. All Interconnect classes will also implement a rate design change as detailed below.

PEC does not currently offer TOU rates to members on an Interconnect rate due to billing system limitations. As new members add solar, PEC needs to ensure that they are recovering the administrative cost of interconnecting to the solar power through fees paid at the time of application.

The Residential Class and Small Power class will consolidate into one General Service class with a service-based rate which align with the Residential classes' existing charges. The current $ per kWh energy charge structure allows existing members with solar to avoid nearly 100 percent of their share of the distribution system demand costs. Implementing a demand charge for all Interconnect Class members in a future consolidated General Service Interconnect Class will allow PEC to fairly recover its distribution cost from those members. The Long Term Rate Design Plan transitions all interconnect class members to a cost-based rate as detailed below.

- Demand based distribution recovery, using absolute value if reverse flowing onto distribution system
- 4CP based TCOS recovery or peak TCOS recovery
- Service Availability Charge in line with costs
- Net TOU time periods for energy

This rate structure will be dependent on the billing system's ability to calculate net billing by TOU period over the course of the billing period.

5.4.6 Time-of-Use Power Cost Recovery

PEC offers members the ability to select a TOU energy rate in most classes. The cost basis for this rate is more than three years and should be reviewed to ensure proper recovery. Additionally, a process should be put in place to ensure an annual review not just a 3-year COSS review of the TOU recovery.

5.5 Proposed Classes and Service Types

PEC is making changes to some member classes and service offerings in 2020 and 2021. PEC will eliminate the Water Well rate class, provide all members the option to receive primary service, remove the college discount rider, create a single transmission service class, create a new unmetered non-lighting class, and implement a Large Power cost based rate. The proposed classes and service options offered to each class in 2021 are presented in **Table 4**.

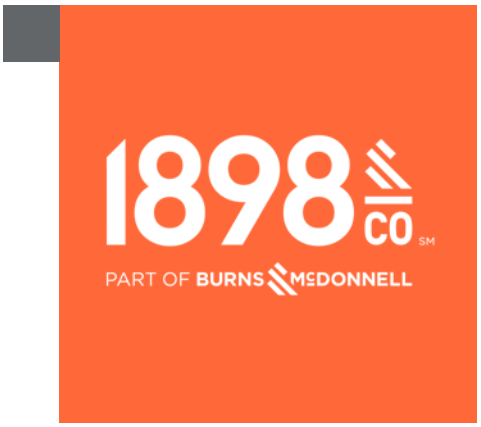
Table 4: Proposed Class and Service Types – 2021

	Base Power Flat	Base Power Time of Use	Wholesale Direct Cost	Transmission COS Energy Charge	Transmission COS 4CP Charge	Secondary Service	Primary Service	Transmission Service	1 Phase Service	3 Phase Service	esaver, ebilling, edraft	Renewable Rider	Cooperative Solar	College Discount	Interconnect (Solar)
Residential	Available	Available	Not Available	Available	Not Available	Available	Available	Not Available	Available	Available	Available	Available	Frozen	Not Available	Available
Small Power	Available	Available	Not Available	Available	Not Available	Available	Available	Not Available	Available	Available	Not Available	Available	Frozen	Not Available	Available
Large Power	Not Available	Available	Not Available	Not Available	Available	Available	Available	Not Available	Available	Available	Not Available	Available	Frozen	Not Available	Available
Transmission	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available
Unmetered Lighting	Available	Not Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Unmetered Non-Lighting	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

In 2022, PEC will continue to make changes to its member classes and service offerings. PEC will merge Small Power into Residential and create the new General Service class, implement a cost differential between single-phase and three-phase service in the General Service class, and allow all classes to receive esaver, edraft, and ebilling discounts. The proposed classes and service options offered to each class are presented in **Table 5**.

Table 5: Proposed Class and Service Types – 2022

	Base Power Flat	Base Power Time of Use	Wholesale Direct Cost	Transmission COS Energy Charge	Transmission COS 4CP Charge	Secondary Service	Primary Service	Transmission Service	1 Phase Service	3 Phase Service	esaver, ebilling, edraft	Renewable Rider	Cooperative Solar	College Discount	Interconnect (Solar)
General Service	Available	Available	Not Available	Available	Available	Available	Available	Not Available	Available	Available	Available	Available	Frozen	Not Available	Available
Large Power	Not Available	Available	Not Available	Not Available	Available	Available	Available	Not Available	Available	Available	Available	Available	Frozen	Not Available	Available
Transmission	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Available	Available	Not Available	Not Available	Not Available	Not Available
Unmetered Lighting	Available	Not Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Unmetered Non-Lighting	Available	Not Available	Not Available	Available	Not Available	Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available



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