Distributed Generation/ Interconnect Rate Changes

Prepared for:

March 2021

Presentation Objectives

- Definitions and Terms
- PEC's Rate Policy
- Cost of Service Overview
- Cost of Service Study Results – Interconnect Rate
- Proposed Interconnect Rate Changes Explained
- Bill Impact – Scenarios Considered

Definitions and Terms

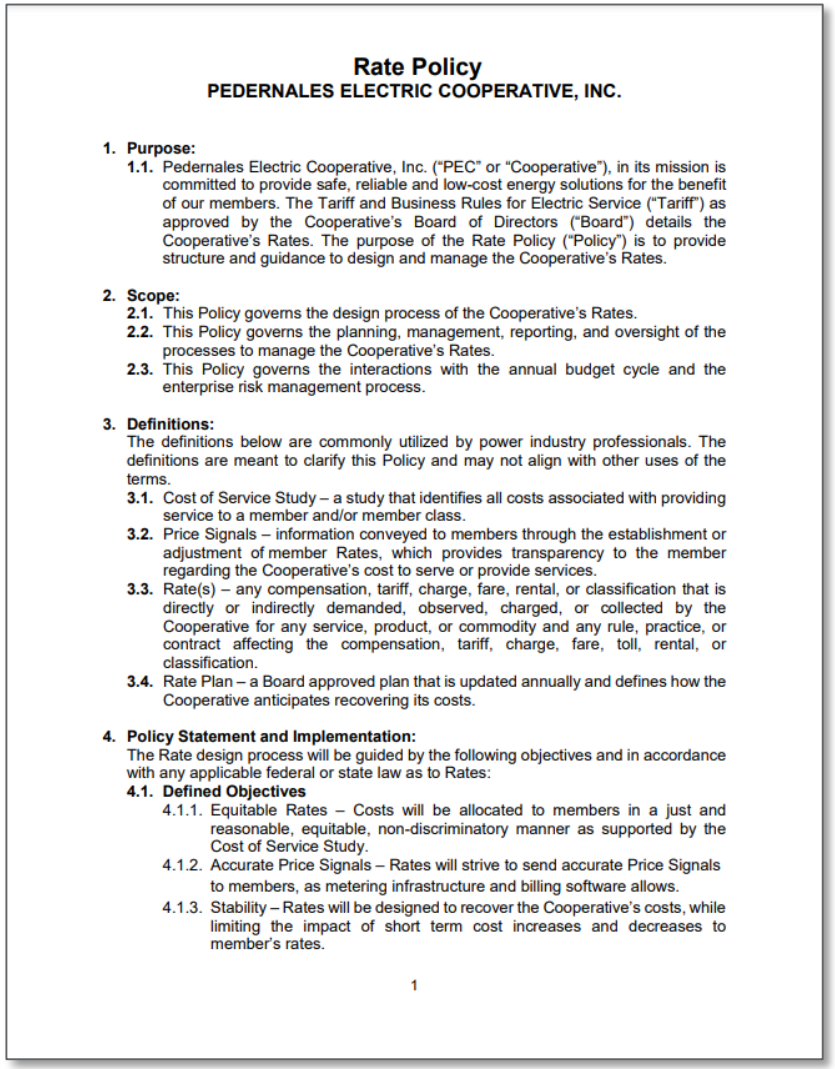
- **Cost of Service Study (COSS)**: Analysis conducted to determine the adequacy of cost recovery methods currently employed and determine whether adjustments are necessary.
- **Four (4) Coincident Peak (4CP)** – The average of the monthly 15-minute demand for each of the months of June, July, August and September at the same time as the greatest ERCOT system 15-minute demand for the months of June, July, August and September.
- **Delivered Energy**: The total energy (kWh) delivered to a Member during a billing cycle through the Cooperative's Delivery System.
- **Fixed Costs**: Costs that do not vary with usage. For example, this may include some types of distribution costs, customer service, meters, etc.
- **Net Energy**: Delivered Energy minus Received Energy.
- **Off-Peak**: Time period when the electric system does not usually face high peak demand.
- **Pass through Costs**: Cost billed to members per the actual costs.
- **Peak Demand**: The maximum demand during a specific time period (e.g., a year, season, month, or day).
- **Received Energy**: The surplus energy generated by a DG system with an Interconnection Agreement received by the Cooperative's Delivery System during a billing cycle.
- **Time-of-Use Rate**: A rate that prices electricity according to the season or time of day that it is used to more closely reflects the actual cost of providing electricity.

PEC’s Rate Policy

PEC's Rate Policy Objectives

- Equitable Rates
- Accurate Price Signals
- Rate Stability
- Full Cost Recovery

[Link to PEC Rate Policy]



Rate Policy
PEDERNALES ELECTRIC COOPERATIVE, INC.

1. **Purpose:**
   - **1.1.** Pedernales Electric Cooperative, Inc. ("PEC" or "Cooperative"), in its mission is committed to provide safe, reliable and low-cost energy solutions for the benefit of our members. The Tariff and Business Rules for Electric Service ("Tariff") as approved by the Cooperative's Board of Directors ("Board") details the Cooperative's Rates. The purpose of the Rate Policy ("Policy") is to provide structure and guidance to design and manage the Cooperative's Rates.

2. **Scope:**
   - **2.1.** This Policy governs the design process of the Cooperative's Rates.
   - **2.2.** This Policy governs the planning, management, reporting, and oversight of the processes to manage the Cooperative's Rates.
   - **2.3.** This Policy governs the interactions with the annual budget cycle and the enterprise risk management process.

3. **Definitions:**
   The definitions below are commonly utilized by power industry professionals. The definitions are meant to clarify this Policy and may not align with other uses of the terms.
   - **3.1.** Cost of Service Study – a study that identifies all costs associated with providing service to a member and/or member class.
   - **3.2.** Price Signals – information conveyed to members through the establishment or adjustment of member Rates, which provides transparency to the member regarding the Cooperative's cost to serve or provide services.
   - **3.3.** Rate(s) – any compensation, tariff, charge, fare, rental, or classification that is directly or indirectly demanded, observed, charged, or collected by the Cooperative for any service, product, or commodity and any rule, practice, or contract affecting the compensation, tariff, charge, fare, toll, rental, or classification.
   - **3.4.** Rate Plan – a Board approved plan that is updated annually and defines how the Cooperative anticipates recovering its costs.

4. **Policy Statement and Implementation:**
   The Rate design process will be guided by the following objectives and in accordance with any applicable federal or state law as to Rates:
   - **4.1. Defined Objectives**
     - 4.1.1. Equitable Rates – Costs will be allocated to members in a just and reasonable, equitable, non-discriminatory manner as supported by the Cost of Service Study.
     - 4.1.2. Accurate Price Signals – Rates will strive to send accurate Price Signals to members, as metering infrastructure and billing software allows.
     - 4.1.3. Stability – Rates will be designed to recover the Cooperative's costs, while limiting the impact of short term cost increases and decreases to member's rates.

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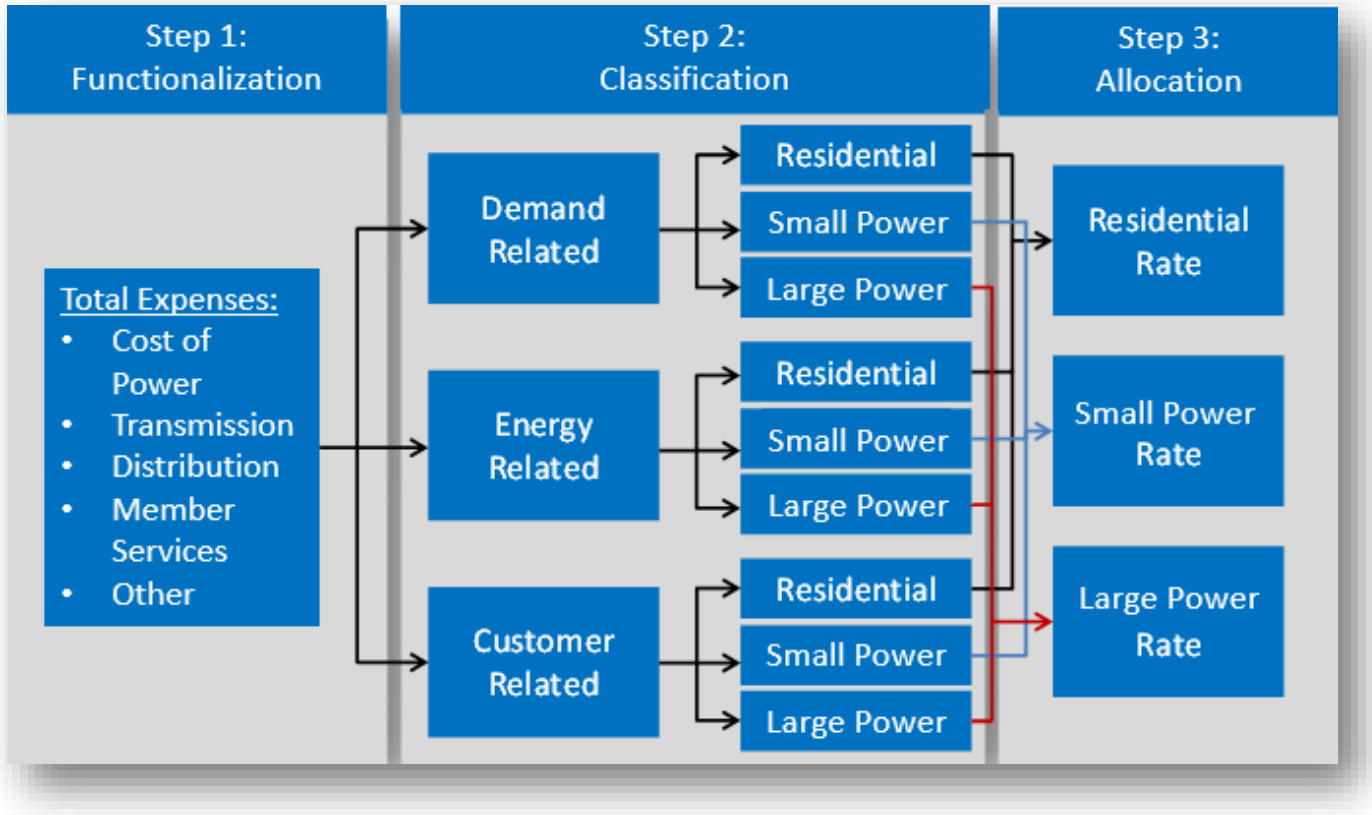
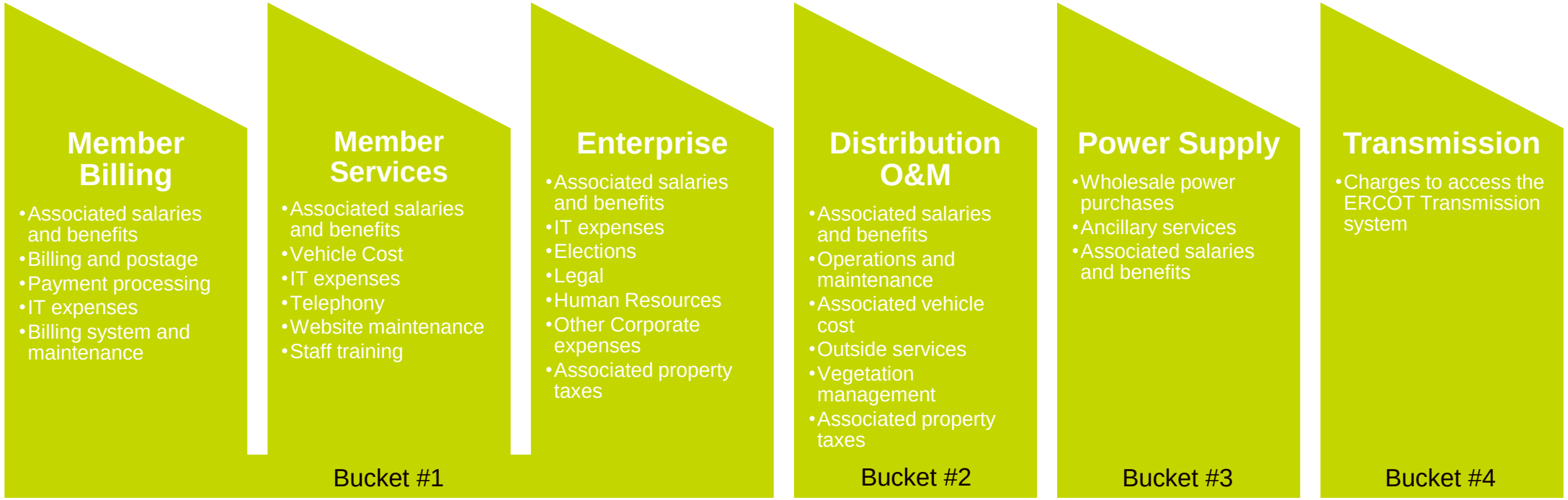
Cost of Service Study (COSS) Overview

COSS Process Overview

- Step 1: Determine total expenses
- Step 2: Determine how the expense is incurred
  - Customer/Member Related
  - Energy Related
  - Demand Related
- Step 2: Determine what rate class incurred the expense or portion of the expense
  - Residential, Small Power, Large Power, Industrial Power, Interconnected Power
- Step 3: Ensure the current rate design recovers expense or design a rate that does



PEC's Cost Components for Interconnect Members



Charge used to recover →	Service Availability	Delivery	Power	Transmission
How PEC incurs cost →	fixed	demand (kW)	Cost varies (kWh) (Time-Of-Use)	4CP demand (kW)
How PEC bills cost →	fixed	energy (kWh)	Rate doesn't vary (kWh) (Flat)	Energy (kWh)

Cost of Service Study Results
Interconnect Rate

Results of Cost of Service Study – Interconnect Rates

- Results of the 2020 COSS show the total cost to serve a member on the 50 kW and below Interconnection rate is under-recovered by ~17% based on historic values
- Under recovery in the Service Availability and Delivery rate components
- Over recovery in the Transmission Cost rate component

		Total Expense	Revenue from current rates	Delta	
	Average Consumers	4,154			
	Energy Sales (kWh)	27,835,828			
Bucket #1	**Service Availability Costs**	**$1,334,823**	**$ 1,077,215**	**$ 257,608**	**19%**
	Monthly Cost Per Consumer	$26.69	$21.61		
Bucket #2	**Delivery Costs**	**$1,133,477**	**$ 742,697**	**$ 390,780**	**34%**
	Monthly Cost Per Consumer	$21.99	$14.90		
Bucket #3	**Power Supply Costs**	**$1,341,242**	**$ 1,238,694**	**$ 102,547**	**8%**
	Monthly Cost Per Consumer	$26.91	$24.85		
	Average Cost per kWh	$0.0482	$0.0445		
Bucket #4	**Transmission Costs**	**$276,201**	**$ 349,618**	**$ (73,417)**	**-27%**
	Monthly Cost Per Consumer	$5.18	$7.01		
	Average Cost per kWh	$0.0099	$0.01256		
	Total	**$4,085,743**	**$ 3,408,224.76**	**$677,518.44**	**17%**

Results of Cost of Service Study – Interconnect Rates

- The current interconnect rate has issues due to both cost misalignment as well as under and over recovery issues.
- Interconnect members are not receiving proper price signals to receive the full costs and full benefits of an interconnect installation.
- These issues have been identified in previous studies as well
- Historically, PEC's billing and metering infrastructure did not have the capabilities to bill in-line with cost causation and benefit.
- PEC is upgrading both their billing and metering system to enable the recommended rate design.
- Members with interconnected distributed generation while still a small percentage of total members has been rapidly growing as shown below

Year End	2017	2018	2019	2020
Count	1,249	1,811	3,751	5,128
% Change		45%	107%	37%

Results of Cost of Service Study – Interconnect Rates

- Cost misalignment – As shown in the previous slide, slide 8, the manner in which PEC is incurring it's costs are not aligned for this rate schedule. The following rate component designs should be changed.
  - Distribution Charge – Should change from a energy usage (kWh) charge to energy demand (kW) charge
  - Power Charge – Should change from a flat (kwh) charge to a Time-of-Use charge (kWh)
  - Transmission Charge – Should change from a energy usage (kWh) charge to energy demand (kW) charge
- Over recovery –
  - Transmission Charge – Target cost recovery should be reduced or design should change from a energy usage (kWh) charge to energy demand (kW) charge
- Under recovery –
  - Service Availability and Distribution Charges – Should change from a energy usage (kWh) charge to energy demand (kW) charge

New Interconnect Net Billing Rate

Service Availability Charge (SAC)

- No changes recommended

- Why?
  - While the table on slide 10 shows a 19% under-recovery, PEC finds it is appropriate to classify and collect these under-recovered costs in the distribution charge bucket

New Interconnect Net Billing Rate

Peak Demand Charge (Delivery)

- Changing from an energy based (kWh) charge to a demand based (kW) charge

- Why?
  - The table on slide 10 shows a 19% under-recovery in SAC that will be recovered through the demand charge as well as a 34% under-recovery in the current delivery charge.
  - The cost is incurred primarily due to meeting peak demand on the distribution system.
  - Aligning cost causation and the rate will limit winners and losers within the rate class

New Interconnect Net Billing Rate

Base Power Charge

- Changing from Flat Rate to Time-of-Use (TOU) Rate

- Why?
  - PEC incurs its costs for power in close alignment to the Time-of-Use rate structure
  - Interconnect members can receive appropriate benefits and costs from their distributed generation installations

New Interconnect Net Billing Rate

Transmission Cost of Service Charge

- Changing from an energy based (kWh) charge to a demand based (kW) charge

- Why?
  - PEC incurs its costs for transmission access by its demand during the Four Coincident Peaks, as defined below.
  - Interconnect members can receive appropriate benefits and costs from their distributed generation installations

New Interconnect Net Billing Rate

Current Rates

• Service Availability Charge	$22.50
• Delivery Charge (Distribution)	$0.02712/kWh
• Transmission Charge	$0.01356/kWh
• Base Power Charge – Flat	$0.0445/kWh
• Net Metering Credit – Flat	- $0.0445/kWh

New Rates (Starting January 1, 2022)

• Service Availability Charge	$22.50
• Delivery Charge (Distribution)	$5.15/kW
• Transmission Charge	~$5.12/kW
• Base Power Charge – TOU	Varies
• Base Power Energy Credit – TOU	Varies

New Interconnect Net Billing Rate – Cost Recovery

		Total Expense	Revenues Proposed Rate	Delta	
	Average Consumers	4,154			
	Energy Sales (kWh)	27,835,828			
Bucket #1	**Service Availability Costs**	**$1,334,823**	**$ 1,077,215**	**$ 257,608**	**19%**
	Monthly Cost Per Consumer	$26.69	$ 21.61		
Bucket #2	**Delivery Costs**	**$1,133,477**	**$ 1,386,273**	**$ (252,796)**	**-22%**
	Monthly Cost Per Consumer	$21.99	$ 27.81		
Bucket #3	**Power Supply Costs**	**$1,341,242**	**$ 1,341,242**	**$ -**	**0%**
	Monthly Cost Per Consumer	$26.91	Pass-through		
	Average Cost per kWh	$0.0482	TOU Base Power		
Bucket #4	**Transmission Costs**	**$276,201**	**$ 276,201**	**$ -**	**0%**
	Monthly Cost Per Consumer	$5.18	Pass-through		
	Average Cost per kWh	$0.0099	4CP Demand		
	Total	**$4,085,743**	**$ 4,080,931**	**$ 4,812**	**0%**

Non-Pass Through Charges

Rate recovers full cost to serve members

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