Approval to Amend Tariff and Business Rules – Interconnected Generation

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History and Background of Rate Policy

PEC's Rate Policy defines the objectives for rates as established by the Tariff. Rates are to:

- Be equitable, just and reasonable, and non-discriminatory
- Provide accurate price signals
- Provide stability
- Allow for sufficient cost recovery of system and operational costs

The Rate Policy also requires that a Cost of Service Study be conducted a minimum of every three years.

A Rate Plan is presented for approval by the Board the 4th quarter of each year containing rate recommendations for the upcoming year informed by the policy objectives and current cost of service study.

- Tariff changes to support the approved yearly Rate Plan are presented to the Board by draft resolution for discussion in Open Session
- Final approval of the tariff changes are discussed in Open Session at the following monthly Board Meeting

History and Background of Rate Policy (cont.)

With these principles in mind, the following tariffed rate changes were made in 2020:

1. Water Well Rate was absorbed into the Residential Rate class
2. Base Power Charge was reduced by $0.001/kWh
3. Updates to the Line Extension Policy

In 2021 the following tariffed rate changes were made as well:

1. Removal of the College Discount Rider
2. Removal of the Revenue Adjustment Factor
3. Removal of the Power Plant Start Rate
4. Removal of the Facilities Rental Rider
5. Changes to Large Power Rate Structure
6. Fee Schedule Updates - (added fees, lowered many fees, removed one fee, raised fees as needed to reflect increasing costs)

History and Background of Rate Policy (cont.)

In addition to rates changes identified as part of the Cost of Service Study, PEC receives input from the membership on new rate offerings. PEC evaluates this feedback for recommendations in the annual Rate Plan.

- This input has resulted in the addition of new rate offerings by PEC:
  - Lighting options
  - Cooperative Solar
  - Renewable Energy Rider
  - Billing Discounts for paperless and auto-draft bills
  - Time-of-use options
  - Time-of-use for solar production

Co-op Financial Model

- Co-ops are member owned, not-for-profit organizations
  - All margins must ultimately be returned to members
  - Members own the co-op's equity and do not receive appreciation in value from their equity

	Co-op Model	For Profit Model
Owners/Customers	same	different
Owner value drivers	rate stability, low cost and reliability	revenues, margin growth, earnings per share
Management incentives tied to	rate stability, low cost and reliability (see PEC KPIs)	revenue growth, EPS growth and growth in share value
Funding sources	operating cash flow, debt	operating cash flow, equity markets, debt
Product offerings	Equity between member classes	Maximize value for each product offering

Co-op Financial Model

- Electric co-ops are capital and labor intensive businesses and can only fund needs through
  - Margins (rates)
  - Debt
- Allowing subsidies creates
  - Higher rates on non-subsidized members or more debt
  - Current debt service is estimated to cost each member approximately $140/year
- As a not-for-profit organization
  - PEC's Board and management are not incentivized to raise rates based on any pecuniary interest
  - PEC's motivation to change rates comes from a desire to address member inequities or a desire to lower cost via lower debt levels

Interconnected Distributed Generation (DG)

- For Distributed Generation (DG) interconnections, including roof-top solar, the 2020 cost of service study identified two areas of concern regarding cost recovery:
  - The costs of interconnecting DG to PEC's distribution system collected through fees, and
  - Recovery of costs of PEC's distribution system

- The cost of service study further identified that PEC was under-recovering its costs through existing Interconnected DG fees and rates, causing non-interconnected members to subsidize interconnected members

Interconnected Distributed Generation (DG)

- Consistent with the principles underlying PEC's not-for-profit corporate structure and the policy objectives of developing equitable, non-discriminatory rates that sufficiently collect system costs, the 2021 Rate Plan proposed new DG Interconnection fees and rates to eliminate the subsidies.
  - The 2021 Rate Plan recommended that these issues be addressed. The plan was adopted by the Board in Open Session at the November 20, 2020 Board Meeting
  - Tariff amendments containing revised DG Interconnection fees and rates were presented to the Board by Draft Resolution at the November 20, 2020 Board Meeting and were discussed in Open Session
  - The final tariffed DG Interconnection fees and rates were adopted by the Board in Open Session at the December 18, 2020 Board Meeting
    - The fee changes were effective upon Board adoption of the Resolution
    - The rate changes would be effective January 1, 2022

Interconnected Distributed Generation (DG)

- In communication and outreach to interconnected members regarding the new rate, PEC staff received feedback on refining the rate structure.
  - After further study and consultation with the cost-of-study experts, PEC staff brought a draft resolution to the Open Session of the March Board Meeting that revised the new DG Interconnection rate adopted in December 2020
    - The revised rate structure would review data in hour intervals, rather than 15-minute intervals
    - This was an improvement in the rate structure that would have benefitted the interconnected members
  - When the final resolution was presented at the April Board Meeting, the Board voted to table the resolution until July 2021
- At the Board's direction, PEC held 3 virtual town hall meetings, and the rate consultant researched other possible rate changes. Board Directors also received feedback and discussed with Members.

Interconnected DG Fees

- 2020 Cost of Service Study identified that the historic interconnection fees for a DG (Solar) system did not adequately collect actually incurred costs from the interconnecting member
- Detailed study done on the interconnection process
  - Fees approved in December are $250 application and $400 interconnect agreement for a total of $650
    - $250 Application Fee recovers:
      - Interconnection engineering study
      - Mapping the proposed DG system into the PEC engineering model
      - Costs to process the application
    - $400 Interconnection Fee recovers:
      - Expediting an on-site meter replacement to allow interconnection (a standard $150 meter fee for all members)
      - Performance of an on-site inspection of the system by trained interconnection personnel (includes a truck roll, and requires visual disconnect and proper signage)
      - Placement of the DG system in the PEC GIS distribution system so that lineman can see the interconnect at a service location

Interconnected DG (Fees)

- Fees are difficult to compare between utilities due to large variations in service territory area and DG adoption numbers.
- Bandera Electric Coop - $750
- Georgetown - $700
- College Station - $550
- CTEC - $350
- BTU - $240
- Bartlett - $200
- NBU - $100

FEE COMPARISON

- Comparison difficult due to differing philosophies
  - Subsidization– utility may choose to subsidize costs based on renewable energy goals
  - Exposure– utility may receive too few interconnection requests to justify establishing fees

Utility	Application Fee	Interconnection Fee
City of Georgetown, Electric Utilities	$ 250.00	$ 450.00
Pedernales Electric Cooperative	$ 250.00	$ 400.00
College Station Utilities	$ 550.00	
Central Texas Electric Cooperative	$ 350.00	
Bryan Texas Utilities	$ 240.00	
Bartlett Electric Cooperative	$ 200.00	
New Braunfels Utilities	$ 100.00	

Interconnected Generation (Fees)

Proposal – DG Interconnection Fees

- The $250 Application Fee should remain in place
  - Change the name to **Application and Engineering Study Fee** for clarity
- The $400 Interconnect Fee at this time may be reduced from $400 to $250 going forward
  - Due to PEC performing mass meter change-outs for the system-wide AMI project, the $150 meter charge is no longer appropriate
  - Change the name to **Interconnect Agreement and Inspection Fee** for clarity

Timeline

- Changes can be effective upon Board approval for all interconnections going forward

Interconnected Generation (Rates)

- 2020 Cost of Service Study identified that PEC is under recovering through the historic solar rate by approximately $650,000 per year that results in a subsidy from interconnected members to non-interconnected members.
  - Primary issue identified is interconnect members usage of the PEC system not being fully recovered due to rate design.
  - $650K per year was using test year of 2019; growth in the interconnect member class since 2019 has increased the under recovered amount to ~$950,000 per year
  - If current growth rate continues, the under collection will double approximately every 3 years, causing an exponential increase

	2016	2017	2018	2019	2020	2021 Est.
Interconnect Accounts	1,270	1,776	2,641	3,810	5,192	6,257
Rate of growth		40%	49%	44%	36%	21%
Total accounts	287,803	300,238	314,855	329,701	348,288	363,130
Interconnects as a percent of total accounts	0.4%	0.6%	0.8%	1.2%	1.5%	1.7%

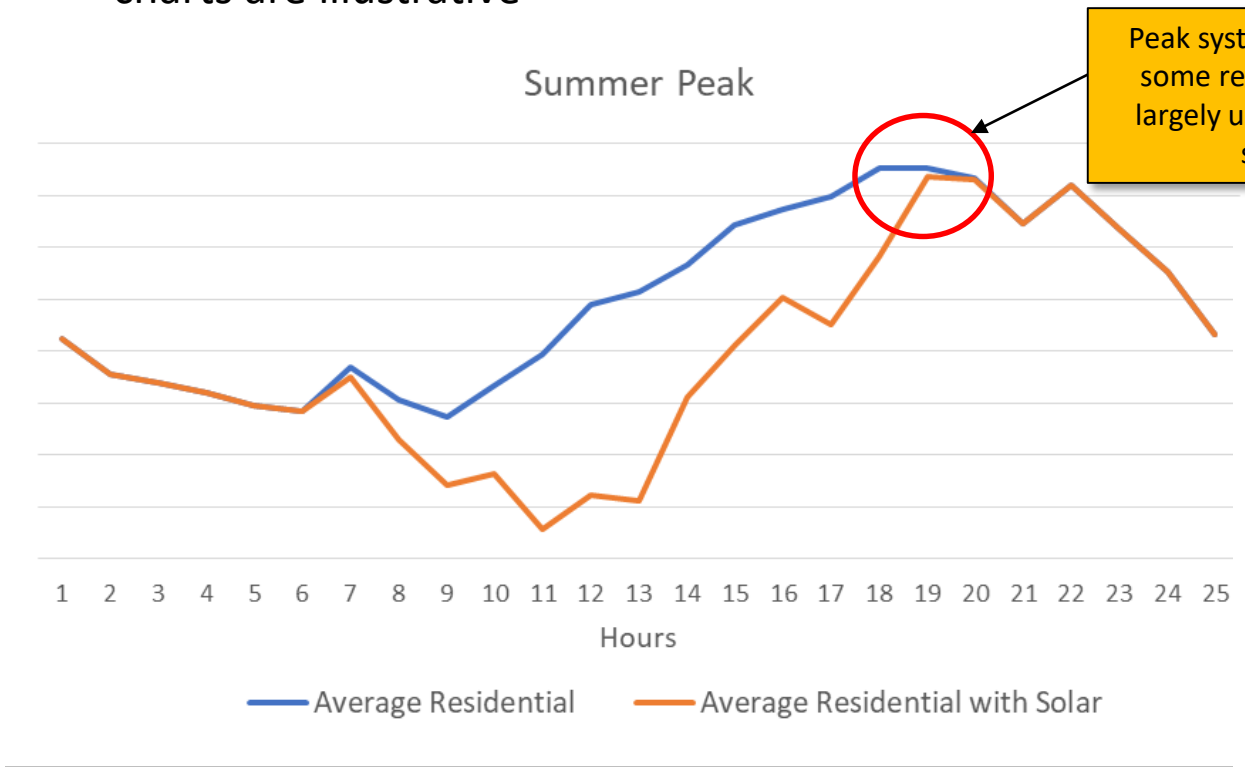
PEC Distribution System Expense

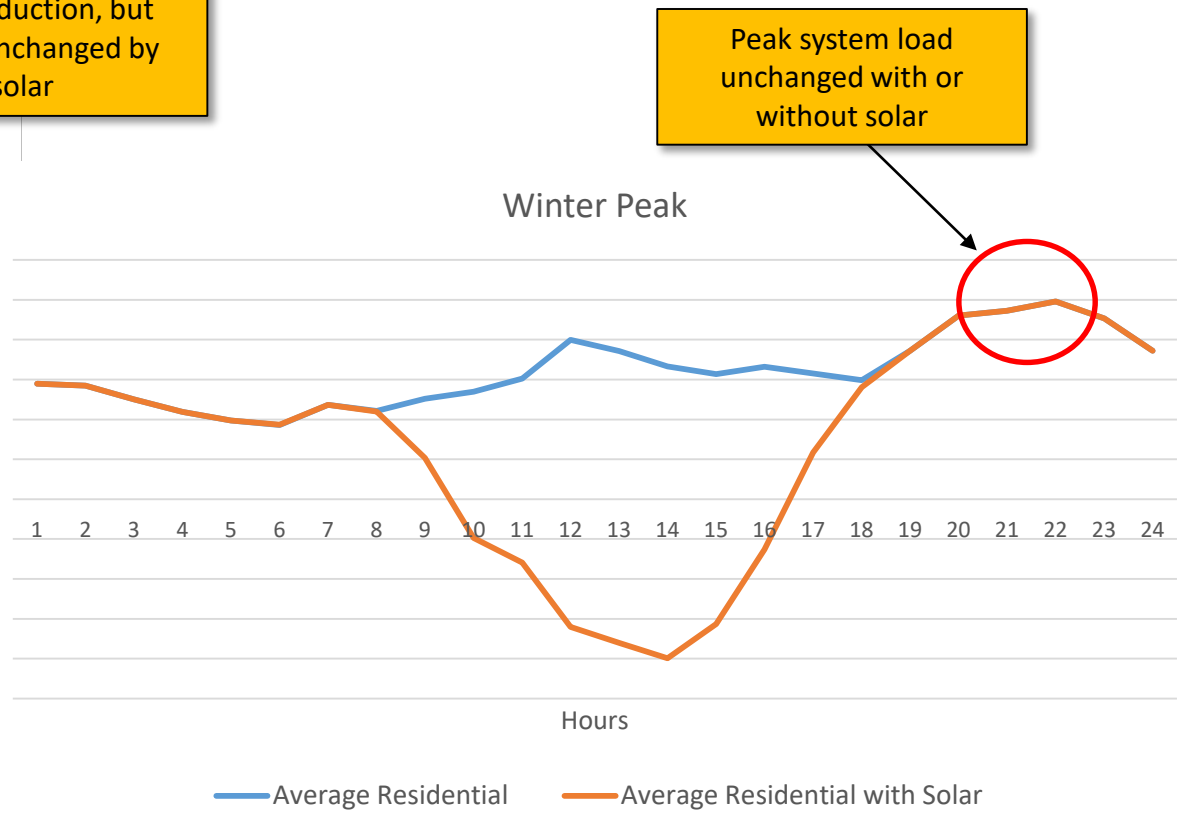
- PEC distribution system is owned by all members of the cooperative
- PEC is and has been mostly a winter peaking system depending on the area
- PEC, like all other utilities, builds its distribution system to accommodate peak usage
    - Solar has a minor impact on reducing the distribution system costs which still need to be recovered through rates
- Example: The purchase price of a car is the same regardless of how far the owner intends to drive it, but the fuel cost will vary with miles traveled. The distribution cost is analogous to the purchase price of the car which will not vary regardless of the miles driven.

Year	Winter Peak; Months 1-2, 11-12	Summer Peak; Months 6 - 9
2012	1,046.9	1,310.2
2013	1,281.3	1,312.9
2014	1,426.8	1,299.5
2015	1,341.7	1,418.4
2016	1,410.5	1,476.2
2017	1,529.2	1,517.7
2018	1,738.1	1,683.7
2019	1,396.5	1,652.4
2020	1,402.2	1,753.1
2021	2,074.0	

PEC distribution system expense

- PEC builds the distribution system to accommodate the peak usage; charts are illustrative





PEC distribution system costs

Average PEC Residential, Farm and Ranch Member

Current Rate	Monthly	Annual
Current Distribution Rate	$ 33.03	$ 396.38
Transmission	$ 16.43	$ 197.10
Base Power Charge	$ 58.69	$ 704.26
SAC	$ 21.61	$ 259.33
Total Average Member Bill	$ 129.76	$ 1,557.07

Average PEC Residential, Interconnect Member

Current Rate	Monthly	Annual
Current Distribution Rate	$ 14.25	$ 170.99
Transmission	$ 6.60	$ 79.19
Base Power Charge	$ 23.38	$ 280.57
SAC	$ 21.61	$ 259.33
Total Average Member Bill	$ 65.84	$ 790.07

Interconnected Generation (Rates)

Proposal

- Return tariffed rate language affecting Interconnected DG less than 50 kW members to the pre-December Board approval
- Staff provide a proposal as part of the 2022 Rate Plan for the Interconnected DG Rates with the goal of:
  - Ensuring that the PEC distribution systems costs are paid for in a manner that is equitable to all members
  - Ensuring the Interconnect (Solar) energy buy-back is equitable, properly values the solar generation, and is transparent for all members

PEDERNALES ELECTRIC COOPERATIVE