Economic concerns about high fixed charge pricing for electric service

The combined impact of a slowly growing economy, increasing adoption of energy efficiency measures and noticeable penetration of customer-sited power generation has kept utility sales in check in recent years. Many utilities suggest that improper pricing of their service is exacerbating this situation.

Pricing to signal the long-run cost of electricity use

When setting residential rates, regulators typically have two tools at their disposal—a variable (volumetric) charge that applies to electricity consumed and a fixed charge that applies to each customer regardless of electric use. A key aspect of utility pricing involves allocating costs to each component. Changes in electricity use have no effect on costs the utility previously expended to build its power plants, transmission lines and substations—those fixed costs are sunk. The efficient volumetric price reflects only those costs that vary with usage. But that notion can be misleading. The relevant economic costs are those that vary over the long run, not the short run.

The practically achievable benchmark for efficient pricing is more likely to be a type of average ***long-run*** *incremental cost, computed for a large, expected incremental block of sales, instead of a* ***short-run*** *marginal cost, estimated for a single additional sale.*[1]

In the long run, all costs are variable.[2] While increased electricity use does not affect the cost of *existing* capacity, it very well may affect the need for *new* capacity. If regulators want to promote efficient resource allocation they will set the volumetric rate above short-run variable costs to reflect full long-run cost causation. This pricing concept is not unique to utilities. Economists observe similar results in unregulated competitive markets where sustainable prices lie noticeably above short-run variable costs.[3]

Which costs belong in the customer charge?

When economist Severin Borenstein looks at the utility system through an economic lens he doesn't see a significant role for a customer charge in recovering utility fixed costs. He asks which costs the utility incurs in the process of merely connecting the customer to the system. In completing the connection, the only costs are those associated with billing administration, the meter and the service drop.[4] Cost studies suggest these distribution costs amount to about $5 per customer per month for the typical electric utility.[5] All other costs depend on usage characteristics. A new 5,000 sq. ft. home requires more system capacity than a new 500 sq. ft. efficiency apartment. Given a choice between the fixed charge and the variable charge, the volumetric charge is the more appropriate home for those capacity costs.[6] If instead they are allocated to the fixed charge, the signal is that all residential customers require the same amount of system capacity, regardless of the size of their residence.

The push for high fixed charge pricing

There is currently much interest in implementing utility pricing based on existing fixed-variable cost relationships. In contrast to the economic pricing approach, these proposed rate designs recover only average short-run variable costs in the volumetric fee, allocating all existing fixed costs to the fixed charge. Under this approach we see fixed charges as high as $70 to $80 per month, with associated variable charges in many cases of only a few pennies per kWh.

What signal does high fixed charge pricing send?

We can illustrate the drawback to such pricing with a simple scenario. With most costs recovered through the fixed charge, customers would receive the signal that increasing the cooling output from an air conditioner on a hot summer day creates no capacity costs for the utility, either in the short-run or the long run. In fact, this pricing implies that the utility never has to add capacity. That is inaccurate and if economic notions of price elasticity[7] have any meaning, moving from traditional pricing to high fixed charge pricing will lead to increased consumption in all periods, including the peak. As peak load grows the utility will then eventually add more capacity and charge the associated costs to their customers, even though the customers never received a price signal to that effect.

Is high fixed charge pricing fair?

American Electric Power finds that high fixed charge rate designs: (1) improperly allocate costs within rate classes, adversely affecting small users; (2) weaken price signals to consumers, reducing the incentive to use energy efficiently; and (3) rest on ill-defined notions of costs.[8] After assessing all the shortcomings of high fixed charge pricing, it concludes:

We believe that there are a host of alternative regulatory strategies that are far more flexible and more closely aligned with traditional regulatory practices.[9]

High fixed charge pricing negatively impacts low users, many of whom are low-income customers. Under this approach the bill for those using less than the average amount of power is higher than the bill they receive under traditional pricing. But since the fixed fee represents the bulk of the monthly bill, and that fee doesn't change with usage, customers can't do much to lower their bill.

Better pricing approaches

Rate design serves multiple purposes and there is room for innovation and compromise on this issue. Some alternatives come to mind. For example, time-differentiated pricing applies a high volumetric rate when the system is near capacity, and a low rate when demand is more limited. A recent preliminary decision at the California Public Utilities Commission finds that time-of-use rates are more cost-based than any flat volumetric rate.[10] Under this approach customers would get the correct signal that ramping up the cooling output from an air conditioner on a hot summer afternoon may increase the need for new capacity over the long run.

The minimum bill approach is another possibility. Under this rate design, the utility might charge $0.10 per kWh for all electricity consumed. There would be no explicit fixed charge, but all customers would pay at least a threshold amount, say $20 per month. A customer using 100 kWh would see a bill of $20 because the volumetric-based charge of $10 would be less than the minimum required level. In contrast, a customer using 500 kWh would simply then pay $50, all of which is usage related, because that amount exceeds the minimum threshold. While the minimum bill may overstate the customer-specific fixed costs to some extent, the Regulatory Assistance Project's Jim Lazar explains the advantage of this approach over high fixed charge pricing. We can see the proper economic pricing foundations in his description:

A minimum bill rate design has an advantage in that the per-kWh price is higher, more closely reflecting long-run marginal costs (all costs are variable in the long run). This rate design encourages prudent usage, better aligned with investment impacts from consumption and investment in energy efficiency. This means customer choices about usage and, importantly, energy-related investments, will be informed by electricity prices that reflect long run grid value.[11]

Summary

As utility markets become more complicated, regulators will be exploring new pricing approaches. High fixed charge pricing steers the economy away from efficient resource allocation, not toward it. Time-differentiated rates and minimum bill approaches offer more promise for regulators interested in sending proper signals about the long-run cost of electricity consumption. ■

[1] Kahn, *The Economics of Regulation,* MIT Press (1988), p. 85.

[2] Varian, *Intermediate Microeconomics,* W.W. Norton & Co. (2014), p. 391.

[3] Hall, "The Relation Between Price and Marginal Cost in U.S. Industry, *Journal of Political Economy* (1988).

[4] Borenstein, "What's So Great About Fixed Charges," Energy Institute at Haas, November 2014.

[5] Lazar, *Rate Design Where Advanced Metering Infrastructure Has Not Been Fully Deployed*, Regulatory Assistance Project (April 2013), p. 26.

[6] Another approach is to use a demand charge, which levy a fee based on use at a given point, not on cumulative use over time. To send a proper cost signal, however, those charges must be based on the customer's use at the time of the utility's system peak (coincident demand), and not based simply on the individual customer's peak usage. That approach is not addressed here because designing proper demand charges is a challenging task and great care must be taken when doing so to avoid price distortions and unfair outcomes.

[7] *Price Elasticity of Demand for Electricity: A Primer and Synthesis*, Electric Power Research Institute, January 2008.

[8] American Electric Power Company, *Issues in Electricity: Straight Fixed Variable*, 2014.

[9] American Electric Power Company, *supra*.

[10] *Proposed Decision*, Rulemaking 12-06-013 Before the California Public Utilities Commission, April 21, 2015, p. 117.

[11] Lazar, *Electric Utility Residential Customer Charges and Minimum Bills*, Regulatory Assistance Project, 2015, p. 4.

About the author

This summary of economic pricing principles was prepared by Steve Kihm, an economist with 35 years of experience in the field of utility regulation, including more than 20 years as an analyst at the Wisconsin Public Service Commission. His work has been published in the *Energy Law Journal, The Electricity Journal,* the *Journal of Applied Regulation* and *Public Utilities Fortnightly,* as well as reported in *Forbes* and the *Wall Street Journal.* He is also Senior Fellow at Michigan State University's Institute of Public Utilities.

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Electric Utility Residential Customer Charges and Minimum Bills:

Alternative Approaches for Recovering Basic Distribution Costs

By Jim Lazar[1]

Electric utilities have certain costs that do not vary with the usage of electricity. It is generally accepted that these include the costs of metering, billing, and payment processing. These costs are most often recovered through what is variously called a "customer charge" or a "service charge" or a "basic charge." In the United Kingdom, this is known as a "standing charge."

Regardless of the title, it is a charge (usually less than $10/month for residential service) that is levied each month regardless of electricity usage, with additional charges applying for each kilowatt-hour of electricity consumed. For most utilities in the US, the customer charge covers the cost of billing and collection, and perhaps other customer-specific costs like meter reading, but not the costs of distribution facilities like poles, conductors, or transformers.

Nearly all electric utilities worldwide bundle the cost of distribution service, as well as the power supply cost, into a usage charge, calculated as a price per kilowatt-hour. This is consistent with how competitive firms price their products, whether it is gasoline, groceries, or hotel rooms: the price per unit recovers all of the costs involved in producing, transporting, and retailing of goods and services.

Some rate analysts argue that a portion of the distribution system – poles, wires, and transformers – constitute a fixed cost that does not vary with sales and should be included in the fixed customer charge. Some recent proposals from electric utilities reflect this view. This is controversial.

Many state regulatory authorities rejected this approach when they held hearings and made determinations under the Public Utility Regulatory Policies Act of 1978.[2] The Washington Utilities and Transportation Commission, for example, explicitly rejected the concept that distribution costs were customer-related in nature:

> *In this case, the only directive the Commission will give regarding future cost of service studies is to repeat its rejection of the inclusion of the costs of a minimum-sized distribution system among customer-related costs. As the Commission stated in previous orders, the minimum system method is likely to lead to the double allocation of costs to residential customers and over-allocation of costs to low-use customers. Costs such as meter reading, billing, the cost of meters and service drops, are properly attributable to the marginal cost of serving a single customer. The cost of a minimum sized system is not. The parties should not use the minimum system approach in future studies.*[3]

However, as sales have flattened or declined in recent years, and as more customers install on-site generating resources but remain dependent on grid services for some service, the concept of recovering distribution network costs in fixed charges has experienced resurgence.

Utility sales volumes in some regions have stagnated or declined as appliances, homes, equipment and systems become more efficient. Sales volumes also vary with weather, declining in mild years. Many state net-metering laws allow consumers installing rooftop solar arrays to incur net-bills for zero or very few kilowatt-hours, depending on the geographic location and the design of the net-metering tariff. To improve revenue stability, and to collect distribution system costs from PV customers, some utilities are arguing that "fixed" costs should be recovered in fixed customer charges. Some utilities are seeking customer charges of $20/month or more. In one extreme case, Madison Gas and Electric Company proposed a $69/month customer charge, to recover all costs except for fuel and purchased power expenses.[4] The Wisconsin PUC recently voted 2-1 to approve an increase in the customer charge to

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1 Rich Sedano, Janine Migden-Ostrander, Brenda Hausauer and Camille Kadoch provided reviews.

2 Public Utility Regulatory Policies Act of 1978, 16 U.S.C. §§2601-2645 (1978). Available at: http://www.gpo.gov/fdsys/pkg/STATUTE-92/pdf/STATUTE-92-Pg3117.pdf.

3 WUTC v. Puget Sound Power and Light Company, Cause U-89-2688-T, Third Supp. Order, P. 71, 1990.

$19/month for Wisconsin Public Service Company.[5]

An electric utility has a defined revenue requirement, determined by their regulator. A higher customer charge therefore means a lower per-kWh rate will be required. This has important impacts on the utility and its customers. Utility revenue is stabilized by a high customer charge, independent of weather, conservation, or other impacts on sales. However, the impacts on customers of high customer charges can be inconsistent with policy objectives:

- Small-use customers, such as apartment dwellers, low-income households, and second homes will receive much higher electric bills; the vast majority of low-income consumers are also low-use consumers. This is anathema to public policy objectives that normally tend to protect low-income customers and/or reward low usage;
- Urban area residents who use natural gas for space and water heat will receive much higher electric bills;
- Large-use customers, including large single-family homes in suburban and rural areas without access to natural gas most often will receive lower electric bills, depending on the existing utility rate design; and
- The lower per-kWh prices that result when a significant portion of costs are recovered in a fixed monthly customer charge will stimulate consumption. This creates consequences for incremental utility investment and for the environment. It also reduces the economic incentive for careful customer energy management practices and investment in energy efficiency measures by increasing pay-back periods.

There are several ways besides high fixed charges to address utility revenue stability issues:

- **Financial Reserves:** The traditional approach has been to set rates in a manner that recovers distribution and power costs in a per-kWh charge, and expect utilities to have adequate financial reserves to manage the volatility that occurs with weather. This is reflected in the 40% – 50% equity ratios allowed for electric utilities in determining the cost of capital.
- **Frequent rate cases**: If regulators hold rate proceedings every year or two, there is little time for sales volumes to deviate far from the level used to set volumetric rates.
- **Revenue Decoupling:** Many regulators have adopted revenue regulation mechanisms that calculate a true-up at the end of the month or year to align actual revenues with allowed revenues.

All of these methods allow the per-kWh charge to continue to reflect substantially all of the costs of service. By structuring rates this way, regulators preserve the consumer incentive to use electricity wisely.

Rate Designs with Minimum Bill Charges

One alternative to address utility concerns for revenue adequacy in addition to Revenue Regulation and frequent rate cases is a concept known as a "minimum bill." A minimum bill guarantees the utility a minimum annual revenue level from each customer, even if their usage is zero. The vast majority of customers, who consume the overwhelming majority of energy, have usage that exceeds those low thresholds. For these customers, a minimum bill "disappears" when the usage passes that level, and the customer effectively pays a volumetric rate to cover both power supply and distribution costs.

It is important to understand that a very small number of customers will be adversely affected by the minimum bill, because a large majority of all customers have usage in excess of the minimum billed amount. Figure 1 compares the number of customers served at each usage level, and the kilowatt-hours used by those customers at each usage level. Only a few percent of the customers, using less than one percent of the energy, have usage below 150 kWh per month in this illustrative example, and are arguably not making a meaningful contribution to system costs when those costs are built into the per-kWh charge.

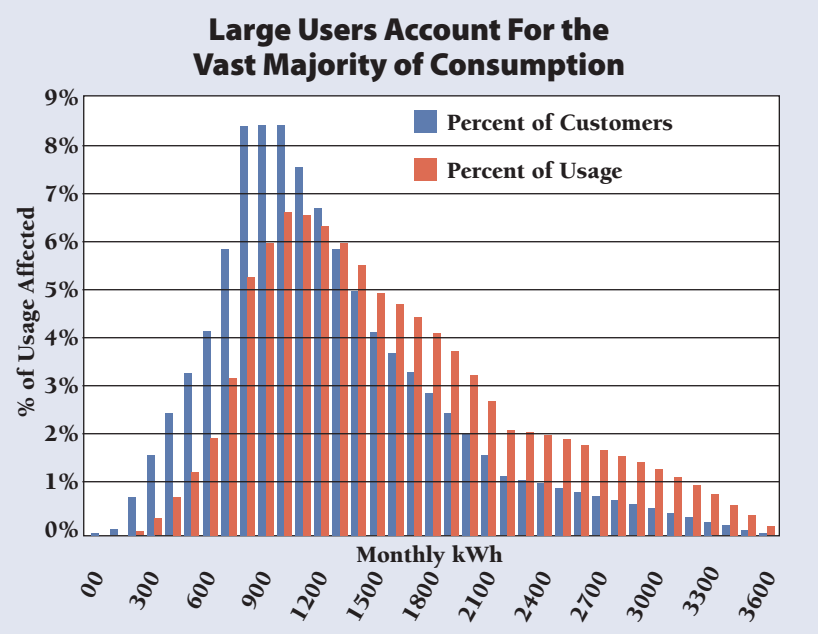
Table 1 compares three example residential rates, all designed to produce the same total level of residential revenue for an illustrative utility with average usage for this example of 1,000 kWh/month/customer.

- **Low Customer Charge:** $5/month, to cover billing and collection
- **High Customer Charge:** $20/month, to cover billing, collection, and a portion of distribution costs
- **Minimum Bill:** $5.00/month to cover billing and collection, with a minimum bill of $20 (which applies if usage falls below 150 kWh/month).

4 Application of Madison Gas and Electric Company for Authority to Change Electric and Natural Gas Rates, Docket 3270-UR-120, April 9, 2014. Available at: http://psc.wi.gov/apps40/dockets/content/detail.aspx?dockt_id=3270-UR-120.

5 Content, T. (2014, November 6). State regulators approve 83% increase in Green Bay utility's fixed charge. *Milwaukee Journal-Sentinel.* Retrieved from: www.jsonline.com.

Figure 1



This shows that for the average customer, the three rate designs produce almost identical bills. With a high customer charge rate design, because the $20 customer charge is collecting $15 more than the $5 low customer charge, the price per kWh is lower by $0.015/kWh. For the minimum bill rate design, however, less than 1% of kWh sales will typically be to those customers using under 150 kWh/month. This group has historically been limited to unoccupied dwellings; more recently, it has come to include customers with solar PV systems that produce as many kilowatt-hours as they consume, but remain dependent on the grid to serve as a "battery" taking excess production during the day, and supplying power when the sun is not shining.

Therefore, there will not be a lot of revenue recovered by the minimum bill charge, leaving most of the revenue requirement recovered by the volumetric charge. The per-kWh rate would only be reduced by about $0.001/kWh (1%) as a result. Under this rate design, very small-use customers, such as PV customers whose panels produce as many kilowatt-hours as the house uses, would pay slightly higher bills. However, as nearly all usage by customers remains priced at a cost-based rate that includes all of the costs of producing and distributing electricity, the low-use PV customer would have negligible usage charges.

Table 1

	kWh	Low Customer Charge	High Customer Charge	$20 Minimum Bill*
Customer Charge		$5.00	$20.00	$5.00
Minimum Bill				$20.00
Per-kWh Charge		$0.10	$0.085	$0.099
Customer Bills	10 kWh	$6.00	$20.85	$20.00
	100 kWh	$15.00	$28.50	$20.00
	200 kWh	$25.00	$37.00	$24.80
	500 kWh	$55.00	$62.50	$54.50
	1,000 kWh	$105.00	$105.00	$104.00
	1,500 kWh	$155.00	$147.50	$153.50
	2,000 kWh	$205.00	$190.00	$203.00

**The minimum bill will only apply when customer's usage is so low that their bill falls below $20.*

Impact on Usage

Electricity usage varies with the price paid. Higher kWh charges create greater incentives for consumers to turn out unneeded lights, manage thermostat settings, and invest in more efficient appliances, windows, and insulation. There is an economic science tool, price elasticity, which measures the expected change in consumption if prices change. Economists variously estimate the price elasticity of demand for electricity in the range of -0.1 to -0.7, with some long-run estimates going higher. An elasticity of -0.2, meaning that a 1% increase in price results in a 0.2% decrease in the quantity demanded, is considered a conservative estimate of long-run price elasticity.

The high customer charge rate design results in a 15% lower price per kilowatt-hour compared to the low customer charge rate design. Assuming an elasticity of -0.2, that would imply that customers would consume about 3% more electricity (-0.2 elasticity x 15% change in rate = 3% change in usage) as a result of the lower per-kWh price.

The minimum bill rate form, on the other hand, only reduces the price per kWh by 1% compared to the low customer charge rate design; assuming the same elasticity factor, the minimum bill design would increase usage by only about 0.2% among customers using more than the minimum billed quantity, when compared with their usage under the low customer charge rate form.

There is, however, a chance that the very small users might increase their usage up to the 150 kWh minimum. With this $20 minimum bill, customers using less than

150 kWh per month would see no change in their bills if they increased usage up to 150 kwh. But, since only a small percentage of customers use that little power, even if they did so, usage would not increase very much.

Evaluating a choice between a $20 fixed customer charge and a $20 minimum bill charge, we would expect about 15 times as much additional usage under the $20 fixed charge as under the $20 minimum bill charge.

Impact on PV Customers

Part of the concern that is raised by utilities is that customers with solar PV systems are "net-metering" to zero kWh, and paying only the customer charge in a monthly bill. These customers remain dependent on the grid for storage and shaping of their daytime energy production. Solar advocates argue that the grid is receiving a more valuable product – daytime renewable energy – than it is providing to the customers at night from conventional generation, and that this is a form of rough equity.

A minimum bill would ensure that a PV customer with net consumption of zero would still contribute to system costs. In the example, these customers would pay $20 per month. But, rather than distort the rate design for all customers, only the low-consumption consumers would be affected, allowing rates that continue to reflect all system costs to be applied to the overwhelming majority of energy sales.

Advantages and Disadvantages

A rate design that uses a customer charge combined with a kWh charge is simple to understand and administer. It provides a clear price signal for each kWh. If the customer charge is lower, the per-kWh charge is higher. However, the public is used to doing business for other purchases with a zero customer charge – grocery stores, gas stations, and virtually all other retailers only charge customers for what they buy, not for the privilege of being a customer (membership warehouse clubs are exceptions, with fees designed to weed out "browsers" from their stores.) There may also be conflict with intended outcomes for low use customers.

A minimum bill rate design has an advantage in that the per-kWh price is higher, more closely reflecting long-run marginal costs (all costs are variable in the long run). This rate design encourages prudent usage, better aligned with investment impacts from consumption and investment in energy efficiency. This means customer choices about usage and, importantly, energy-related investments, will be informed by electricity prices that reflect long run grid value. The disadvantage is that, for the very small number of customers whose usage is below the "minimum," this rate design provides no disincentive at all to using the minimum amount of electricity. It can be perceived to have a disadvantage of encouraging additional usage by those users with usage below the minimum billed amount, but there are very few of these customers, and their prospective additional usage increase is minimal. Users in this group may argue that the minimum bill is unfair to them.

Finally, a minimum bill rate form ensures that second-homes, which may have no consumption during the off-season, contribute to utility revenues. This is sometimes presented as an economic justice issue, since second homes are generally held only by upper-income consumers.

Conclusion

The primary purpose of utility regulation is to enforce the pricing discipline on monopolies that competitive markets impose on most firms. Competitive firms nearly always recover all of their costs in the price per unit of their products. Therefore, any fixed monthly charge for electricity service represents a deviation from this underlying principle of utility regulation. The most commonly applied customer charges recover only customer-specific costs, such as billing and collection, in a fixed customer charge, leaving all costs of the shared system to be recovered in usage charges.

A regulator seeking to increase the contribution to utility system costs from those customers with minimal consumption can do so with either a higher customer charge, or establishing a minimum bill. The minimum bill option will ensure that all customers contribute to distribution costs, but without significantly stimulating consumption by higher-use customers or raising the bills of lower-income, low-use customers.

Forthcoming in Second Quarter, 2015: *Electric Rate Design for the Utility of the Future*. Watch for this on our website, www.raponline.org

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50 State Street, Suite 3 • Montpelier, VT 05602 • *phone:* +1 802-223-8199 • *fax:* +1 802-223-8172
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Recent cases involving the residential customer charge

Q. Please respond to Mr. Rush's assertion that customer charge increases are being approved throughout the country.

A. Mr. Rush's analysis of an increased customer charge approval "trend" has been confined largely to decisions made by the Wisconsin Public Service Commission involving three investor-owned utilities (IOUs) where residential customer charges were increased 82% for two utilities (Madison Gas & Electric and Wisconsin Public Service) and 78% for another (WE Energies). If any trend is evident, it is one where Commissions across the country are rejecting such an inappropriate increase because it violates traditional regulatory practice, produces a regressive and discriminatory impact on intra-class ratepayers within the residential customer class, and runs counter to existing public policy objectives. In contrast to the three Wisconsin utilities, customer charge increases have recently been dropped through settlement or rejected outright by Commissions including:

- First Energy—West Penn customer charge settled at $5.81—no increase[29]
- Kentucky Utilities and Louisville Gas & Electric customer charge settled at $10.75[30]
- PacifiCorp, Washington Utilities and Transportation Commission rejecting Company ($14) and Staff ($13) customer increase from $7.75.[31]
- Appalachian Power customer charge settled at $8.35—no increase[32]
- New Mexico Public Regulation Commission rejected the Public Service Company of New Mexico's request to raise charges by 16 percent as well as a $26 connection fee for new solar customers.[33]
- Xcel Energy, Minnesota Public Utilities Commission rejected Company customer ($9.25) increase from $8.00.[34]

[29] http://www.puc.state.pa.us/about_puc/search_results.aspx?q=r-2014-2428742
[30] http://psc.ky.gov/PSC_WebNet/ViewCaseFilings.aspx?Case=2014-00371
[31] http://www.utc.wa.gov/docs/Pages/PacifiCorpUE-140762.aspx
[32] http://www.scc.virginia.gov/newsrel/e_apcobi_14.aspx
[33] http://www.nmprc.state.nm.us/rssfeedfiles/pressreleases/2015-5-14PNMsRequestToRaiseResidentialRatesUnanimouslyRejectedByThePRC.pdf

- Ameren Missouri, Missouri Public Service Commission rejected a $0.50 increase to customer charge.[35]

- Empire Electric District (Missouri) customer charge settled at $12.52—no increase[36]

Q. What overall trends in the electric industry does Dr. Overcast cite as evidence that the Commission should depart from traditional ratemaking principles?

A. Dr. Overcast's rebuttal testimony and to a much larger extent his attached KCPL report, "Modernizing Utility Ratemaking Practices in a Changing Industry" goes into greater detail about the variety of utility and regulatory challenges across the country. Although Dr. Overcast's central argument revolves around justification for the FAC and an overall argument against regulatory lag, he does speak to electric trends throughout the country that he believes justify a departure for KCPL from Missouri's traditional regulatory model.

In one specific example, Dr. Overcast cites the New York Public Service Commission's (NYPSC) Reforming the Energy Vision (REV) docket 14-M-0101 as an example of evidence where other Commissions are actively reforming ratemaking principles to ensure success towards modernizing electricity in the 21st century.[37]

Q. Should the Commission consider the NYPSC's REV docket?

A. Absolutely, but with the understanding that New York utilities operate in a deregulated environment and where the Commission is aggressively promoting market animation, ratepayer protection and empowerment, and a utility rate structure based on Performance-Based Regulation (PBR) that specifically promotes a mixed monopoly/competitive model as opposed to the cost-of-service regulatory model in place in Missouri.

[34] http://mn.gov/puc/documents/pdf_files/press_release_xcel_ratecase_3-26.pdf
[35] ER-2014-0258 Report and Order
[36] ER-2014-0351 Non-unanimous stipulation and agreement on certain issues
[37] New York State Governor (2014) Governor Cuomo announces fundamental shift in utility regulation. https://www.governor.ny.gov/news/governor-cuomo-announces-fundamental-shift-utility-regulation

Survey of Residential and Small Commercial Customer Charges

State	Company	Customer Charge ($/Month) Residential	Commercial
IA	Amana Society Service Co[1]	NA	NA
IA	Interstate Power and Light Co	$ 10.50	$ 17.80
IA	MidAmerican Energy Co	$ 8.50	$ 10.00
IL	Ameren Illinois Company	$ 10.57	$ 19.44
IL	Commonwealth Edison Co	$ 10.96	$ 11.95
IL	MidAmerican Energy Co	$ 7.25	$ 18.07
IL	Mt. Carmel Public Utility	$ 8.00	$ 20.00
IN	Duke Energy Indiana Inc	$ 9.40	$ 9.40
IN	Indiana Michigan Power Co	$ 7.30	$ 10.90
IN	Indianapolis Power & Light Co[2]	$ 6.70	$ 11.38
IN	Northern Indiana Pub Service Co	$ 11.00	$ 20.00
IN	Southern Indiana Gas & Electric Co	$ 11.00	$ 11.00
KS	Empire District Electric Co	$ 14.00	$ 19.00
KS	Kansas City Power & Light Co	$ 10.71	$ 17.54
KS	Westar Energy Inc	$ 12.00	$ 20.00
MI	Alpena Power Co	$ 5.00	$ 7.00
MI	Consumers Energy Co	$ 7.00	$ 20.00
MI	Indiana Michigan Power Co	$ 7.25	$ 6.25
MI	Northern States Power Co	$ 8.25	$ 10.50
MI	The DTE Electric Company	$ 6.00	$ 8.78

[1] Amana Society Service Co. is not regulated by the Iowa Utilities Board.
[2] Indianapolis Power & Light Co. rate reflects a residential customer using 0-345 kWh in a month. The customer charge for usage over 345 kWh is $11.

Survey of Residential and Small Commercial Customer Charges

State	Company	Customer Charge ($/Month) Residential	Commercial
MI	Upper Peninsula Power Co	$ 12.00	$ 16.00
MI	Wisconsin Electric Power Co	$ 9.61	$ 15.00
MI	Wisconsin Public Service Corp[1]	$ 9.00	$ 22.00
MN	Interstate Power and Light Co	$ 8.50	$ 21.33
MN	Minnesota Power Co	$ 8.00	$ 10.50
MN	Northern States Power Co - Minnesota[2]	$ 8.00	$ 10.00
MN	Northwestern Wisconsin Electric Co[3]	$ 7.50	$ 15.00
MN	Otter Tail Power Co	$ 8.50	$ 15.50
MO	Empire District Electric Co	$ 12.52	$ 21.32
MO	KCP&L Greater Missouri Operations Co[4]	$ 10.43	$ 17.19
MO	Kansas City Power & Light Co	$ 9.00	$ 16.45
MO	Union Electric Co - Missouri	$ 8.00	$ 9.74
ND	Montana-Dakota Utilities Co	$ 10.65	$ 21.30
ND	Northern States Power Co - North Dakota	$ 14.50	$ 16.75
ND	Otter Tail Power Co	$ 8.00	$ 13.00
OH	Cleveland Electric Illum Co	$ 4.00	$ 7.00
OH	Dayton Power & Light Co	$ 4.25	$ 8.66
OH	Duke Energy Ohio Inc	$ 6.00	$ 8.07
OH	Ohio Edison Co	$ 4.00	$ 7.00
OH	Ohio Power Co	$ 8.40	$ 13.17

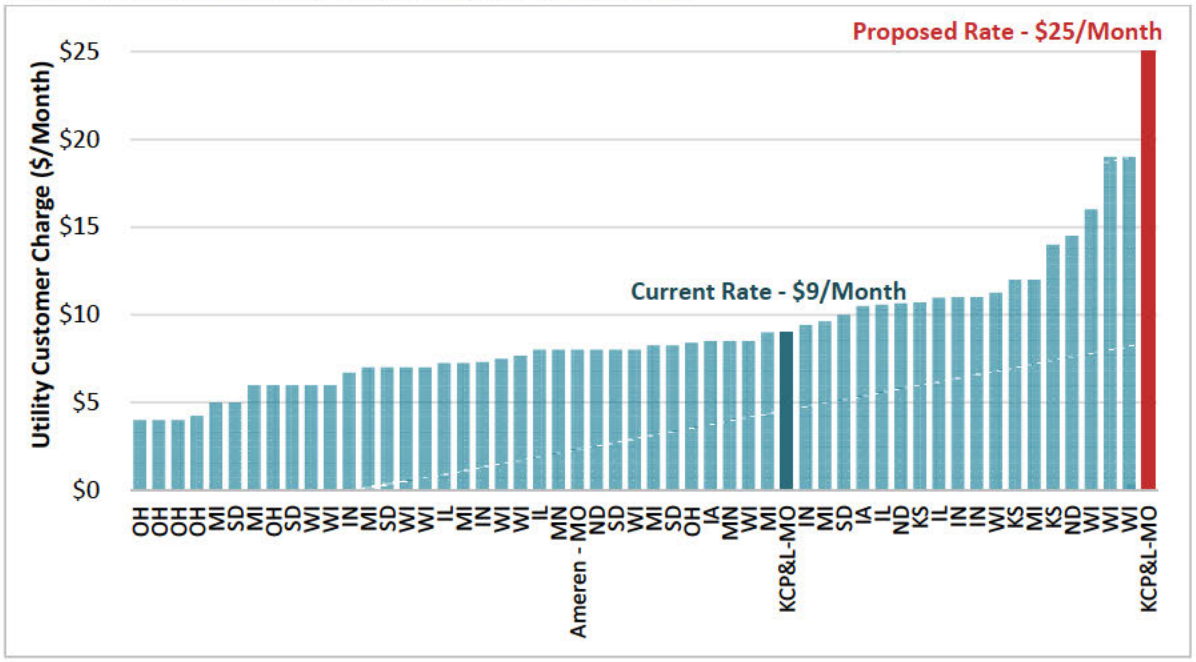
[1] Wisconsin Public Service Corp. has a separate tariff for urban and rural customers. The table reflects the urban customer charge. The Rural Residential customer charge is $11.00 and the Rural Small Commercial customer charge is $24.00.
[2] Minnesota imposes separate customer charges for residential customers based on overhead or underground service. The table reflects the rate for Residential customers served by overhead lines. The underground service customer charge is $10.00.
[3] The Northwestern Wisconsin Electric Co. has a separate tariff rate for urban and rural customers. The table reflects the urban customer charge. The Rural Residential customer charge is $8.50.
[4] KCP&L Greater Missouri Operations Co. providese tariffs for two separate territories, L&P and MPS. The table reflects the rates for MPS. The Residential and General Service rates of the L&P territory are $9.54 and $18.85, respectively.

Survey of Residential and Small Commercial Customer Charges

State	Company	Customer Charge ($/Month) Residential	Commercial
OH	The Toledo Edison Co	$ 4.00	$ 7.00
SD	Black Hills Power Inc	$ 10.00	$ 12.50
SD	MidAmerican Energy Co	$ 8.23	$ 11.75
SD	Montana-Dakota Utilities Co	$ 6.00	$ 12.00
SD	NorthWestern Energy Co - (SD)	$ 5.00	$ 8.00
SD	Northern States Power Co - South Dakota[1]	$ 8.25	$ 9.00
SD	Otter Tail Power Co	$ 8.00	$ 13.00
WI	Consolidated Water Power Co	$ 6.00	$ 6.00
WI	Dahlberg Light & Power Co	$ 8.50	$ 11.00
WI	Madison Gas & Electric Co	$ 19.00	$ 23.93
WI	North Central Power Co Inc	$ 11.25	$ 20.00
WI	Northern States Power co	$ 8.00	$ 8.00
WI	Northwestern Wisconsin Electric Co	$ 7.50	$ 15.00
WI	Pioneer Power and Light Co	$ 6.00	$ 8.00
WI	Superior Water and Light Co	$ 7.00	$ 8.00
WI	Westfield Electric Company	$ 7.00	$ 7.00
WI	Wisconsin Electric Power Co	$ 16.00	$ 16.00
WI	Wisconsin Power & Light Co	$ 7.67	$ 7.67
WI	Wisconsin Public Service Corp	$ 19.00	$ 25.00

[1] South Dakota imposes separate customer charges for residential customers based on overhead or underground service. The table reflects the rate for residential customers served by overhead lines. The Underground service customer charge is $10.25.
Source: Company Tariff Books.

Figure 1. Current Customer Charges at Midwestern Utilities



Source: Direct Testimony of David Dismukes, ER-2014-0351, February 11, 2015

4. IMPLICATIONS OF KCP&L'S CLASS COST OF SERVICE STUDY

Q. What is the purpose of the class cost of service (CCOS) study?

A. There are two basic purposes of a class cost of service (CCOS) study. The first is to help establish class revenue requirements by determining the costs of providing service to each class of customers. The second purpose is to provide unit costs,[4] which can be used as one of the inputs to designing rates.

[4] The term "unit costs" refers to costs that are defined on the basis of specific units; in other words, per customer per month (for customer-related costs), per kWh (for energy-related costs), and per KW for (demand-related costs).

FREQUENTLY ASKED QUESTIONS ON HIGH FIXED CHARGES, AKA STRAIGHT FIXED VARIABLE (SFV) RATES

Q. How are my energy bills currently determined?

A. Most customers have a customer charge on their bill designed to recover the incremental cost associated with your service, such as reading your meter and sending you a bill. This is typically in the range of $5 - $10/month. Added to that is a charge (known as the volumetric rate) for all the energy used, which is expressed in cents per kWh ($/kWh). The more energy (kWh) you use, the higher your bill will be. Sometimes, the energy price changes based on how much you use (inclining or declining blocks), the time of year (seasonal differentials), or the time of day (time-of-use rates).

Q. What's wrong with this approach that needs to be changed?

A. Nothing. A low customer charge to recover billing and collection costs, with most of the other costs of delivering electricity reflected in the energy charge ($/kWh), gives you the ability to control the amount of your bill by taking steps to reduce your usage.

Q. What would change under the proposal?

A. Under the new SFV rate proposal, the utility would recover more of its costs, generally distribution costs, upfront through a much larger customer charge that is equal for all customers regardless of how much each person uses. You would still have an energy charge ($/kWh) which would be lower.

Q. Why does my utility want to change the way we have always been billed by increasing my customer charge?

A. As many customers are purchasing less energy by conserving or participating in energy efficiency programs or installing rooftop solar, utilities worry that they will not get enough revenues to cover their costs and earn a return for their shareholders. Since revenues are based on sales, if sales go down so do the revenues the utility receive.

Q. Are there other ways to handle this?

A. Yes. There are a number of other ways to address this that would not impact low-use customers.

Q Will my bills go up with SFV rates?

A. It depends. Since all customers pay the same customer charge, small users may see a bill increase while larger users will generally see a savings on their bill.

Q. This is not how it has always been done. I thought the customer charge was to recover the cost of reading my meter and sending me a bill. What else is in this charge?

A. It is not clear. Utilities argue that this allows them to recover their fixed costs (such as the cost of distribution wires, utility poles, etc.). However, there is disagreement within the industry as to what should be included in the customer charge.

FREQUENTLY ASKED QUESTIONS ON HIGH FIXED CHARGES, AKA STRAIGHT FIXED VARIABLE (SFV) RATES

Q, Do other businesses collect their fixed costs in a monthly customer charge?

A. Generally, no. Oil refineries, hotels, and grocery stores all have fixed costs, but recover those costs through the prices they charge for the products and services they sell to customers. Utilities, including electricity and natural gas are monopolies in their service territories, and therefore able to impose a fee for the privilege of being a customer. This is generally impossible in a competitive business, and it is only possible for a utility if the regulator (public utilities commission) allows this type of charge.

Q. I visit my sister in Florida for six weeks during the winter. Would I still have to pay this new high charge even though I am gone?

A. Yes. Under the utility proposal, you will continue to be charged the customer charge whether you use any electricity or not. You currently would pay this charge under the existing rates, however, the difference is that the amount of the charge is much higher.

Q. What if I go on vacation in the summer and I am not using any gas or electricity? Would I have to pay this charge to my utility?

A. Yes. You would still have to pay this charge. It is unavoidable unless you completely disconnect electricity service, and if you do, the utility may charge a substantial fee when you reconnect your service.

Q. (For Gas Customers only) I have all electric appliances and only use gas in the winter for heating for about 5 months. Would I have to pay these high charges for the other seven months of the year when I am not using any gas?

A. Yes. As long as you are a gas customer, you still have to pay this charge whether you are using gas or not, unless you completely disconnect gas service, and if you do, the utility may charge a substantial fee when you reconnect your service. You should also check with your gas company, local advocate or the Commission if other charges might apply.

Q. My old refrigerator just gave out on me. The sales representative at the store told me that buying an Energy Star refrigerator would save me more money in the long-run because I would be using a lot less energy. Now what happens? Will I be able to recover my investment in the more expensive refrigerator?

A. You will still recover your investment so it is worth purchasing an Energy Star appliance. But, it will take longer for you to realize savings and the cumulative amount of money saved over the life of your refrigerator will be less.

Q. I try to watch my energy bills carefully and keep my thermostat low in the winter and high in the summer. Should I even bother anymore if I am going to pay a high customer charge on my bill no matter how little I use?

A. Yes. It still makes sense to continue to conserve where you can to lower your bill; however, the amount you are able to save as you continue the same practices will be less.

Q. I live in a one bedroom apartment and my boss lives in a big four bedroom house. Are we both going to be paying the same amount?

FREQUENTLY ASKED QUESTIONS ON HIGH FIXED CHARGES, AKA STRAIGHT FIXED VARIABLE (SFV) RATES

A. You will both pay the same high customer charge. If your boss uses more electricity, s/he will have a higher bill to cover the extra energy used. However, your boss might see an overall reduction in the bill, while you might see an increase.

Q. I don't like this charge, what can I do about it?

A. You have a number of options. If there is a public hearing, you can attend and testify. You can also write letters to the public utilities commission, the governor, and your state legislators who represent you in the House and the Senate. Another way to voice your concern and let more people know about the issue is to write a letter to the editor of your local newspaper. There may be an advocacy organization interested in adopting this issue – you could encourage them, or help them if they are already trying to do something about it.

Sept. 3, 2015

KCP&L wins 11.7% rate increase for its Kansas City customers

For Kansas City customers, the news shouldn't come as a shock: Kansas City Power & Light has won approval to raise their electricity rates again.

But the increase in Missouri, the sixth in less than nine years, will still sting, costing the average household nearly $12 more each month. It will help the utility recover costs for pollution control at its La Cygne coal-fired plant, improvements at its Wolf Creek nuclear power plant and rising transmission expenses.

Dustin Allison of the Missouri Office of Public Counsel, which represents consumers in utility cases, said, "Missouri's middle class is being squeezed, and this doesn't help."

The Public Service Commission, which ruled Wednesday, gave KCP&L about three-fourths of what it asked for: an 11.7 percent rate increase, versus a 15.8 percent request, and $89.7 million in added revenue, instead of the $120.9 million requested. The utility's $9 monthly flat charge per customer also will be allowed to rise to $11.88 instead of the $25 KCP&L requested.

Overall, the utility will be allowed a 9.5 percent rate of return, down from its current 9.7 percent and substantially less than the 10.3 percent rate it requested.

Chuck Caisley, KCP&L's vice president for marketing and public affairs, said that rate of return was "at the low end of the average nationally. … We would've liked those who invest in us in Missouri to get more in return."

The rate increase covers the 270,000 KCP&L customers in the utility's original service area, which includes most of Kansas City, Mo. Rates are set separately for its other customers in the state, about 315,000 in western Missouri, including those in St. Joseph and in some area suburbs such as Raytown.

The increase, effective Sept. 15, will be the sixth since the beginning of 2007. Compounded, the increases mean those customers' rates will be up more than 75 percent in that time, Allison said. But he called the commission's reduction in KCP&L's rate of return "a step in the right direction."

Caisley said the utility viewed the ruling as "constructive overall" and recognizing that KCP&L had made substantial investments to remove "the vast majority" of several pollutants from the La Cygne plant, upgrade Wolf Creek to last another 20 years and improve the utility's infrastructure and long-term security.

In Kansas, a KCP&L request for a 12.5 percent rate increase is before the Kansas Corporation Commission, which could rule next week. It covers similar costs, including the La Cygne pollution control, but was lower because those customers had already started paying for those costs.

Caisley noted that regulators also approved a fuel-adjustment provision similar to one KCP&L already has for its other Missouri service area, which it acquired when Aquila went out of business.

That clause will let KCP&L periodically pass along changes in its costs for fuels and for wholesale power it buys. That lets the utility recover most of those costs more quickly, instead of having to build them into its next rate increase request.

That also usually means an increase in customers' bills, but with coal prices down and natural gas prices still relatively low, the charge recently decreased for KCP&L's former Aquila customers. KCP&L also has a similar charge in Kansas.

The Office of Public Counsel and two groups representing commercial and industrial users had objected to allowing the fuel charge. Letting the costs pass through to customers can be a disincentive for the utility to watch those costs more carefully, Allison said, instead of making them be justified in a rate case. And the periodic changes can make it more difficult for users of large amounts of electricity to budget their expenses.

Allison said his office and those user groups were weighing what to do concerning the fuel adjustment clause. They could ask the PSC for a rehearing on the issue and then go to court if that request either wasn't granted or a rehearing didn't produce a favorable result.

Caisley noted that nearly all states with similar regulatory systems allowed fuel adjustments, and this KCP&L service area was the last large one in Missouri to get a fuel adjustment clause.

Greg Hack also can be reached at 816-234-4439. Follow him @GregHack.

Customer-related distribution costs include a portion of the operating and maintenance cost of distributing power at primary (13 kV) and secondary (below 4 kV) voltages to customers such as poles, transformers and tree trimming. Metering costs include the installation and maintenance cost of meters and the monthly labor cost to read customer meters. Customer-related billing and accounting costs include costs associated with the monthly preparation and processing of customer bills and utility revenue accounting.

The cost of service analysis quantified IPL's customer related costs for each of the customer classes. For example, analysis indicated a cost of service customer charge for the residential rate class of $23.96 per month. The recommended residential customer charge is $14.50 per month, or 60% of IPL's residential customer related costs. The difference between IPL's cost of $23.96 and the recommended rate of $14.50 per month is essentially rolled into, and recovered from, the residential energy charge. As discussed later, it is recommended the proposed residential customer charge be phased-in to lessen the customer bill impact for lower energy use residential customers while moving towards cost of service based rates. The comparison of the recommended IPL customer charge is compared with the customer charges of neighboring utilities in tables described later in this report.

Goals and Objectives

Based on discussions between IPL and Sawvel, the following goals and objectives were established for IPL's rate design strategy:

- Move rates toward cost of service
- Reduce subsidization by high load factor customers to move toward rate competitiveness
- Eliminate the requirement for end use provisions to receive incentive rates
- Consolidate rate schedules whenever appropriate
- Make rate structure changes by replacing minimums with customer charges and reducing the number of block rates
- Develop seasonal rates for all rate classes that recognize IPL's higher cost of serving summer usage, and lower cost of serving winter usage.
- Develop and restructure rates to become more rate competitive with the neighboring utilities of Kansas City Power & Light, Kansas City Power & Light – GMO, and the Board of Public Utilities – Kansas City, Kansas.
- Develop a high load factor rate for large customers.

- Develop a partial requirements rate and related agreements for customers that may choose to install on-site generation to supply a portion of the customer's electricity requirements
- Develop a community solar tariff
- Develop Schedule REC -1 Regulatory and Environmental Compliance Rider to recover regulatory and environmental costs not included in IPL's base rates or Schedule PCA-1 that are difficult to predict and not in control of IPL.
- Develop Schedule PCA-1 Power Cost Adjustment incorporating the following:
    - Develop a stable, predictable forward-looking adjustment factor rather than a monthly calculation.
    - Remove recovery of purchase power demand cost and transmission charges
    - Reset the base cost to the current level of power supply fuel and energy cost and set the rider to zero
    - Provide for a review the Schedule PCA-1 calculation and make projections for the periods beginning February and August.

As of October 1, 2016, the recommended proposed restructured schedule of rates would reduce revenues by approximately $3 million per year (2.3%) and will impact the revenue from each rate class. Table ES-3 summarizes the revenue distribution by rate class at current rates with the recommended revenue by rate class using rates effective October 1, 2016.

Table ES-3
Comparison of Revenue Distribution ($)
Existing Rates vs Proposed Restructured Rates
Adjusted Test Year 2014
Independence Power & Light

Rate Class	Existing Rate Revenue[(1)]	Proposed Revenue	Difference ($)	Difference (%)
Residential	73,576,524	73,974,611	398,087	0.5
General Service	6,060,329	6,399,955	339,626	5.6
Large General Service	50,849,669	47,483,258	(3,366,411)	(6.6)
Large Power	5,327,618	4,879,985	(447,633)	(8.4)
Total Excluding Lighting/Signals	**135,814,140**	**132,737,809**	**(3,076,331)**	**(2.3)**

(1) Adjusted to reflect March 2014 through February 2015 average FCA.

Table ES-7
Residential Rate Comparison - IPL Proposed Restructured vs Neighboring Utilities Estimated Future (Customer Charge $14.50/month effective October 1, 2016) - Typical Use Customer

	Summer 1,100 kWh	Winter 700 kWh	Difference from IPL Proposed Restructured	
			Summer	Winter
IPL Proposed Restructured				
Customer Charge	$14.50	$14.50		
Energy Charge	$154.00	$86.80		
Schedule REC	$0.66	$0.66		
Total	$169.16	$101.96		
KCPL Proposed (1)				
Customer Charge	$25.00	$25.00	72.4%	72.4%
Energy Charge	160.55	84.78	4.3%	-2.3%
Environmental Charges				
Total	$185.55	$109.78	9.7%	7.7%
Difference IPL Proposed Restructured less KCPL	($16.39)	($7.82)		
Old Aquila Estimated (2)				
Customer Charge	$12.09	$12.09	-16.6%	-16.6%
Energy Charge	170.31	102.54	10.6%	18.1%
Environmental Charges				
Total	$182.40	$114.63	7.8%	12.4%
Difference IPL Proposed Restructured less Old Aquila	($13.24)	($12.67)		
KCK BPU Estimated (3)				
Customer Charge	$17.60	$17.60	21.4%	21.4%
Energy Charge	125.37	80.71	-18.6%	-7.0%
Environmental Charges	$3.34	$2.13	406.7%	222.4%
Total	$146.31	$100.43	-13.5%	-1.5%
Difference IPL Proposed Restructured less KCK BPU	$22.85	$1.53		

(1) KCPL proposed rate increase of 15.9% pending before Missouri Public Service Commission.
(2) Old Aquila expected to file for rate increase in early 2016. Assumed 15.9% increase to match KCPL increase.
(3) Rating agency reports KCK BPU estimated to increase rates 5% in 2015 and 2016.