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BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of Aligning Electric  
Distribution Utility Rate Structure With  
Ohio's Public Policies to Promote  
Competition, Energy Efficiency, and  
Distributed Generation.

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Case No. 10-3126-EL-UNC

PUCO

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COMMENTS OF  
OHIO PARTNERS FOR AFFORDABLE ENERGY

On December 29, 2010, the Public Utilities Commission of Ohio ("PUCO" or "Commission") issued an Entry requesting comments on possible modifications to the rate structures of Ohio's electric distribution utilities to "better align utility performance with Ohio's desired public policy outcomes". Entry at 1. Ohio Partners for Affordable Energy ("OPAE") hereby submits the following comments and responses to the questions posed by the Commission on behalf of seventy community-based nonprofit organizations and the low- and moderate-income clients they serve.<sup>1</sup>

Comments

Ohio has traditionally followed the principals of cost causation when establishing rates. Current electric rates reflect this long-established approach. Residential and small commercial customers pay a low customer charge which reflects the fixed costs of billing and customer service. The balance of distribution costs are recovered through volumetric charges. This is appropriate. If every customer used less than 500 kWh/month, the distribution system would be much smaller and less expensive. Larger users increase distribution costs because their loads create the need for larger

<sup>1</sup> A list of OPAE's members is available at [www.ohiopartners.org](http://www.ohiopartners.org).

transformers, more circuits, etc. The allocation of the revenue requirement to individual customer classes is based on the principle of cost causation. Industrial customers pay distribution rates that reflect their minimal impact on the distribution system. Residential and small commercial customers bear the brunt of the costs for the poles and wires that run through neighborhoods based on the demands that residential and small commercial customers place on the distribution system which varies based on usage and location. Clearly, the cost of the infrastructure necessary to serve a resident living in an 800 square foot apartment in a multi-family apartment complex is far less than the cost of infrastructure for a customer with a 6,000 square foot home in a posh suburb with a minimum three acre lot requirement. The consumption is different as is the demand which drives the size of the system. It is well known that distribution rates in rural electric systems are much higher than investor-owned utilities primarily because a cooperative serves an average of seven customers per mile, while the concentrations in urban areas exceed 100 customers per mile. There are economies of scale in distribution, but a neighborhood of all-electrically heated homes requires a more robust – and higher cost – distribution network than a comparable neighborhood where the homes are heated with natural gas or bulk fuels because they increase demand. The amount of electricity consumed and the level of demand matters when it comes to sizing a system. Rates based on cost causation make sense and result in equity among consumers who are by no means similarly situated.

The background section of the Entry expresses concern regarding the “throughput incentive” produced by existing rate structures which feature a small fixed component with the balance recovered through a per kilowatt hour volumetric charge.

Certainly, electric utilities collect more distribution revenue when sales are higher. However, the factors that result in sales greater than the average used to establish the revenue requirement are not often within the control of the utility. The weather is the largest driver of residential and small commercial use, while the economy drives the demand and use of larger customers. Two years ago Ohio experienced a much cooler summer than normal and a much warmer winter. The situation has shifted in 2010; the summer was slightly hotter than normal, while the winter has been far colder than the any in the last decade. As a result, the utilities saw a significant dip in revenues from the residential class in 2009, and an offsetting increase in 2010. The utilities and the customers share the risk under current electric rate designs. Revenues from Ohio's industrial customers plunged in recent years because of plant closures or production cuts as a result of the severe recession. The throughput incentive may have been a major driver of utility sales strategies in the past when power was cheap; business was booming; there was excess capacity (resulting from extraordinarily expensive investments in nuclear plants, among other things); and, the Fuel Use Act prohibited additional natural gas hook-ups. These factors are not significant in today's marketplace because the factors that created the throughput incentive have changed.

The impact of energy efficiency programs should, if the stated goals and targets of SB 221 are met, will result in a reduction in revenue over time. Unlike natural gas, where price signals and a steady increase in appliance efficiency have caused significant erosion in throughput, electricity has seen a steady increase in usage caused by increased plug loads, primarily consumer electronics. In the early years of implementing SB 221, the financial impact of efficiency is essentially 'lost' because it is

relatively insignificant when compared to the weather, the economy, and other variables. Over time, the impact will grow substantially given the standards established in SB 221. The advanced energy standard, which includes distributed generation and additional efficiency opportunities, will further reduce distribution revenues.

The Commission, and then the General Assembly, has determined that utilities are *entitled* to recover the revenue requirement established in their most recent rate case. This requires a rate scheme that is joined at the hip to the revenue requirement. It eliminates all risk for the utility because it removes the impact of weather, customer defection, energy efficiency, distributed generation, and any other factor that affects the level of revenue recovery. The utility is guaranteed the recovery of the cost of running the basic components of its system. Riders collect infrastructure additions and other expenses, some through fixed cost riders and others through volumetric charges – whatever is inappropriate or appropriate as the case may be.

This is a mixed bag for customers. They do want adequate investment in the distribution infrastructure so the system works reliably and safely, as well as decent call centers and fair business practices, and will pay a reasonable price for this service. At the same time, it is well established that energy efficiency programs also improve reliability by reducing the demand on the distribution system. Distributed generation has the same capability if the infrastructure is designed to accommodate it. Customers are paying for efficiency and distributed generation on their own and through the riders that make up utility rates. Should they also pay for a distribution system that is larger than need be and that provides them no benefit?

Regulatory policy is about balancing the needs of utilities and customers.

Utilities require assurance that they will recover their revenue requirement, which appears to be preferable to the risk of volatile swings in sales which can be driven by a variety of factors. Betting on the weather or the economy is an iffy proposition, and the *opportunity* to recover the revenue requirement is apparently no longer adequate for utilities. The concern of the Commission and legislators over whether a utility recovers the revenue requirement does not obviate the need of customers to be treated equitably and to only pay for the distribution service they need. Distribution system cost are basically fixed (subject to upgrades and replacement costs), though the costs to serve individual customers varies based on demand and consumption levels.

OPAE recommends these competing interests be compromised as follows:

- Customers pay tiered fixed rates based on consumption – OPAE proposes a four tier structure.
- Utilities should be required to undergo distribution rate cases every three to five years to ensure that all jurisdictional revenues match all jurisdictional expenditures plus profit.

OPAE will further define these recommendations in the context of the questions posed by the Commission.

#### **Response to Appendix A.**

- 1) While there are significant operational differences between natural gas and electric utilities, these differences do not affect the nature of the distribution systems. Both have infrastructure – pipes or wires, meters -- and the need to repair and replace components in that system. Both have customer service functions. The only operational difference is that electric customers may produce energy and sell it

through the electric distribution system; natural gas customers do not feed supply into the system because if they have their own natural gas supply they go off the system, or were never on in the first place. The average yearly costs of both electric and natural gas distribution systems and services can be ascertained through regulatory processes honed over more than a century. This establishes the revenue requirement.

2) There are both factual and policy considerations that militate against using identical rate design approaches for the two distinctive types of distribution networks. Eighty percent of the natural gas used by residential and many small commercial customers is consumed in four months of the year for heat. Virtually all small customers consume natural gas for the same three purposes: heating, hot water, and cooking. The Commission and the Ohio Supreme Court have determined that primarily fixed charges (straight-fixed variable) -- and in the case of one natural gas distribution utility a single fixed charge (straight-fixed) -- are generally appropriate, though the Commission has sanctioned bill credits for certain low-income, low-use customers creating a *de facto* two block rate.

Electricity is different because the quantity of use determines the robustness of the required infrastructure. A multi-family building is served by different equipment than a neighborhood of bungalows and the cost per customer is different. Costs vary by customer density. There is also a wide range of electric end uses that vary significantly among households. Some homes or apartments have central air, while many others have none. Some heat with electricity completely or partially, while others do not heat with electricity at all. Some homes have 200 amp service, while others make do with 40

amp fuse boxes. There is much greater variation in the electric end uses in homes when compared to natural gas. Distribution costs should reflect these variations in household use because they result in differences in infrastructure from neighborhood to neighborhood. An elderly woman in a 1000 square foot bungalow hardly causes the same costs or uses as much of the system as a family in a 4,500 square foot home with an electric car. And, there is little the small user can do to reduce her use, so that she is cannot cause as much of the revenue erosion which results from energy efficiency programs. The greatest reductions in throughput result from investments in efficiency by the largest users. The principle of cost causation dictates that larger users pay more, and those that have the greatest potential to reduce use face larger fixed charges. Ideally, the charge for customers not billed on a demand basis should reflect the same percentage of the bill with consumption used as a proxy for demand, which drives the size of the system.

3) OPAE recommends none of the options listed in Question 3. Instead, it suggests a four-tier fixed rate approach. Each consumption tier would pay a flat monthly rate. For example, assuming that a residential customer, on average, would need to pay \$30/month to ensure the utility recovers its revenue requirement, the four rates could be set as follows:

- a. <500 kWh/month – \$12/month (20% of customers);
- b. 500-1,000 kWh/month – \$25/month (30% of customers);
- c. 1,000-2,000 kWh/month – \$35/ month (30% of customers); and,
- d. >2,000 kWh/month – \$48/month (20% of customers).

This is simply an example. The definition of the tiers and the rates can be altered to reflect the consumption patterns of the utility customers. Tiers could be reviewed every three to five years in conjunction with a rate case designed to ensure the revenue requirement is correct. In the alternative, the tier under which an individual household is served and the transition between tiers could be adjusted annually based on a snapshot of the previous twelve months consumption.

This four tier approach treats customers equitably by reflecting usage, avoiding the significant cost shifting from high to low consumption customers caused by a straight-fixed or straight-fixed variable rate, an issue previously recognized by the Commission. The risk of the utility not recovering its revenue requirement is substantially mitigated as it is by a straight-fixed rate. A straight-fixed variable rate, by comparison, presents a utility with greater risk because a portion of the revenue recovery remains subject to the weather or the economy. Consistent with the policies of the State of Ohio, the four-tier approach encourages energy efficiency by reducing the discount of the value of efficiency caused by the straight-fixed or the straight-fixed variable rate as approved in Ohio. Because a small user can only save a modest amount of electricity through moderate investments – say some new light bulbs and perhaps a refrigerator – a small fixed charge will have a negligible impact on recovery of the investment. A large user with an all-electric home can invest a substantial amount in shell insulation and high efficiency HVAC. The higher fixed charge is a much smaller offset to the potential energy savings, so the discount caused by the fixed charge is relatively small. The four-tier design encourages investment in energy efficiency. In comparison, a straight-fixed rate is a disincentive for efficiency and conservation; the

less a customer uses, the greater the disincentive while larger users are incentivized to use more power because the straight-fixed rate lowers the cost per unit as consumption increases.

The four-tier approach also mimics the simplicity of a straight-fixed rate because so long as the appropriate numbers of customers are in each tier and the charges are proportional, the utility can recover its revenue requirement. If efficiency gains substantially reduce the number of large users, the tiers can be reset.

OPAE believes this approach is preferable to the options listed in Question 3 of the Entry. The level of lost revenue recovery will inherently outpace the cost of the efficiency programs over time and is not tied to the revenue requirement of the utility. More 'traditional' decoupling using annual riders to correct over- or under-recovery is overly complicated and can be manipulated through adjustments; it lacks transparency. Straight-fix variable designs retain a portion of the utility risk – roughly 20% as opposed to 80% under conventional volumetric rate designs – but result in cost-shifting from large users to small users. Straight-fixed rates with no variable component are simple but inherently unfair, because variations in the individual customer end-uses impose very different costs on the system. Straight-fixed rates, even with a variable component, significantly discount the savings of small users, extending the paybacks of even modest investments such as lighting, while promoting consumption by reducing the cost per kilowatt as usage increases.

4)

- a. OPAE has not analyzed the impact of the four-tier rate design on customer bills with a demand component. It may well be adaptable to that

use, but we make no recommendations at this time. OPAE is recommending the four-tier rate design for residential and small commercial customers.

- b. Revenue requirements should be set through a rate case every three to five years to ensure the revenue equal costs plus a reasonable return on equity.
- c. The Commission has approved reductions in the return on equity of 50 basis points for the natural gas utilities that have adopted straight-fixed variable rate designs. Since the four-tier guarantees recovery of the revenue requirement. When coupled with the riders which now recover variable costs and construction work in progress, the utilities is provided a high level of surety of recovery. OPAE submits that a reduction of at least 100 basis points is appropriate because entire risk of recovery for a monopoly distribution service is eliminated. Generation is priced by the market, where the risks and rewards are said to balance out.

5)

- a. Adjustments should be made based on customer usage patterns, grouping the highest users together at one rate, with declining tiers set at levels necessary to provide intra-class equity while fostering efficiency and ensuring recovery of the revenue requirement.
- b. There should not be weather adjustments under any of the options listed in the Entry. Weather adjustments are unnecessary for the four-tier rate design.

- c. There is no volatility in recovery under a four-tier approach. More traditional decoupling should permit adjustments only within bands or adjustments that are capped to prevent price volatility. However, limiting revenue true-up adjustments by either approach will lead to distortions, causing over- or under-recovery which will have to be dealt with at some point.

6)

- a. Implementation should occur only in conjunction with a distribution rate case using actual expenditures as the basis for rates (as opposed to projected expenditures).
- b. A phase-in period is necessary for a straight-fixed or straight-fixed variable rate because of the significance of the cost shift to lower usage customers. The four-tier rate would not require a phase-in, nor does conventional decoupling.
- c. Phase-in for a straight-fixed rate or its variable relative should be for a minimum of three years per the precedent established in the natural gas cases where this issue was litigated.

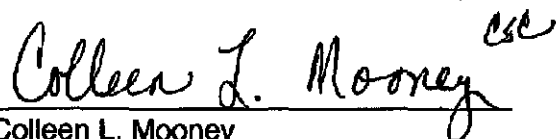
7) OPAE takes no position regarding whether collection of the data would be burdensome since it will not be producing the information. The data request does appear appropriate, but incomplete. In order to analyze the four tier approach, the Commission will also need information on the number of customers at different consumption levels, and will need to analyze the tiered rates in light of the percentage of the bill represented by distribution charges. For example, if electricity is 10

cents/kWh, the average usage is 1,000 kWh, and the distribution charges represent 20% of the bill or \$20, equity would dictate that a customer using 500 kWh would pay \$10 for distribution. Ideally, more granular information is needed on the dwelling structure, such as square footage, multi-family, and age delineation of the property. These descriptive characteristics would provide needed insight in the make-up of the customers of the distribution utility. Tiers would be set in light of the class average percentage while balancing the number of consumers in each tier in order to meet the revenue requirement. The data is not proprietary; similar data was made available and/or was part of the record in the recent natural gas cases that involved these rate design issues.

### **Conclusion**

OPAE offers the four-tier rate design as an appropriate balance between the needs of customers for equity by recognizing the principle of cost-causation and that the potential for energy efficiency varies by customer, and an electric utility's need to recover its revenue requirement.

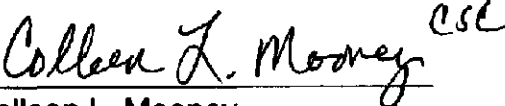
Respectfully submitted,

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## CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Comments was served electronically upon the following persons identified below on this 11th day of February 2011.

  
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