



Citizens Utility Board

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Commissioner Travis Kavulla, President
National Association of Regulatory Utility Commissioners
1101 Vermont Avenue, NW, Suite 200
Washington, DC 20005

Comments of the Citizens Utility Board of Illinois on NARUC's Draft Manual on Distributed Energy Resources Compensation

Dear President Kavulla,

The Citizens Utility Board of Illinois (CUB) offers these comments on the draft "NARUC Manual on Distributed Energy Resources Compensation" (Manual) from NARUC's Staff Subcommittee on Rate Design. The authors faced a difficult task in even-handedly summarizing the many ongoing, contentious policy disagreements endemic to the rate design process, and commendably produced a document that largely accomplishes that goal. CUB approves of the author's decision to approach the manual as a guide through the issues a regulator will face, rather than a list of recommendations for their resolution.

That said, some sections of the manual are more even-handed than others. As a consumer advocate, CUB wishes to highlight two areas where the manual appears to accept the industry perspective on an aspect of DER compensation as fact. CUB is concerned doing so could prejudice future readers against consumer advocate perspectives or arguments. In particular, the manual's working definition of DER specifically leaves out capacity as a service that DER can provide, and uses very industry-friendly language to describe a vertically integrated state customer's obligation towards their utility.

In addition, CUB offers direct comments on residential demand charges. Specifically, CUB's own research recently found that due to different usage patterns, low-income customers could be more likely than the general population to see lower bills when demand charges replace volumetric delivery charges and some fixed charges, depending on the initial rate design.

Working definition of DER excludes capacity services

The manual defines DER as a resource that can “be used by the system ... to *satisfy the energy or ancillary service needs* of the distribution grid [emphasis added]”.¹ By specifically including energy and ancillary services without mentioning capacity, this definition suggests capacity is not an appropriate market for DERs, when demand response aggregation has in fact been a significant factor in capacity market for years, and DERs in general have tremendous potential to participate in these markets in the future.

Automated energy management technologies have developed at a rapid pace in recent years, and are steadily improving residential customers’ ability to regulate their electricity consumption. CUB expects these technologies to continue to expand in scope, improve in reliability, and come down in price, which will enable wider segments of the population to participate in energy efficiency and demand response aggregation programs that can bid in to capacity markets.

If this manual is to inform regulators as they navigate the various issues of adapting DER compensation methods to the particular needs of their jurisdictions, then the foundational definition for DER that the manual uses ought to include every aspect of the electricity marketplace in which DERs participate. Excluding, by definition, capacity as a product that DER can supply, and by extension, for which they can be compensated, will needlessly hamper further development of these resources as market participants. By simply including capacity in this clause of the definition, the authors can avoid this consequence.

Cost-shifting section invents offtake obligation for vertically integrated customers

Section IV.D addresses the issue of potential cross-subsidization between customers and customer classes, and the authors divide this discussion between restructured and vertically integrated jurisdictions. This division makes sense, as there are legitimate differences in the market forces influencing supply prices in either model. However, CUB takes issue with the position of the authors in Part 2 of this section that individual customers of a vertically integrated utility “... have an obligation to provide the utility with the opportunity to recover those investments including a return on the investment”.² Individual customers do not enter into an offtake agreement with the utility when they sign up for new service; vertically integrated utilities have a regulatory compact with the state or local jurisdiction, where the trade-off is an obligation to serve all customers in exchange for a local monopoly. There is no special “obligation” then conferred to the individual customer to help the utility realize their return on investment.

Imagine a hypothetical family that moves from Carbondale, IL, to St. Louis, MO, for work. For years, this family has paid Ameren Illinois for their electricity distribution services, while their supply needs have been met on the MISO wholesale market through a third-party supply company. With the higher income they are making from the new job in St. Louis, they are buying a new house and installing a solar roof. This family is under no special obligation to help Ameren Missouri pay off

¹ “NARUC Manual on Distributed Energy Resources Compensation”, NARUC, pg. 17

² Ibid., pg. 36

decades-old generation assets; rather, they are entitled to make the electricity generation and consumption decisions that best suit their own needs.

CUB understands how DERs could pose a greater cost-shifting challenge in vertically integrated jurisdictions because by nature of there being a sole generation entity for all customers, any generation costs not met by customers with DER must necessarily be covered by other customers, effectively doubling (at least) the magnitude of cross-subsidization issues posed in restructured jurisdictions. CUB appreciates this complicates DER compensation in these states, and does not take issue with the conclusions of Section IV.D.2; however, including language that places an offtake obligation on individual customers would set an unfortunate precedent for future rate cases that might refer to this manual.

Bill impacts of demand charges

Section V.D takes up the question of demand charges as they relate to DER compensation. The authors do a good job going into depth to summarize the various considerations residential demand charges entail, and for the most part, summarize the issues appropriately. However, while CUB does not here take a position on the appropriateness of demand charges for residential customers, one point in the introduction to Section V.C bears challenging: that “[l]ower income customers ... are especially hard hit as they have less control over peak demand usage”.³ In fact, research CUB has conducted into the bill effects of residential demand charges suggests that low-income customers could be more likely than the general population to see lower bills when demand charges replace volumetric delivery charges, especially when they are accompanied by reductions in fixed charges.⁴

Absent locally applicable subsidies targeted at low-income communities, DER require a sometimes significant upfront capital investment on behalf of residents that make them infeasible for many such customers. That does not necessarily mean demand charges will be particularly harmful to this vulnerable population. CUB’s research has found a significantly higher than average proportion of low-income customers exhibit the combination of low usage and high load factor that make them likely to benefit from the introduction of demand charges, regardless of any investment in DER. We analyzed anonymous 2014 billing data for 106 thousand Commonwealth Edison (ComEd) customers in the Chicagoland area, and 2015 billing data for 655 thousand ComEd customers from a wider swath of Northern Illinois, to compare monthly electric bills under the current rate design to what bills would have been under several different variations of non-coincident peak (NCP) demand charge.⁵ The dataset included monthly kWh usage and a monthly NCP assessment in kW, and indicated whether customers were either Low-Income Home Energy

³ Ibid., pg. 50

⁴ Zethmayr, Jeff. “Bill effects of Demand-Based Rates on Commonwealth Edison Residential Customers”, *Electricity Policy: Electricity Daily*, July 2016

⁵ Current ComEd rate design features a fixed customer charge of between 8 – 11 \$/mo, depending on residential sub-class, and volumetric delivery charges of between 1.6 – 3.3 ¢/kWh. CUB’s analysis also compared bill effects at variable levels of customer charge, lowering the fixed charge for a larger share of variable demand charge recovery.

Assistance Program (LIHEAP) or Percentage of Income Payment Program (PIPP) participants.⁶ In the simulation scenarios holding the balance of fixed and variable delivery charges constant, 62% of all low-income residential customers would have had lower annual bills with NCP demand charges replacing the volumetric delivery charges, compared to only 52% of all customers in the data set. This disparity between low-income customers and the general population held true in every scenario we studied, and across all residential sub-classes.⁷

Residential demand charges are currently the subject of very active debate, much of which falls outside the scope of these comments. Further analysis preliminarily shows that individual customer demand shows a similar level of month-to-month variation as individual kWh usage, and that customer-to-customer variation within classes shows the same similarity between demand and volume. This calls into question some claims that customers have little control over their peak demand, and counters the attack from some that demand charges represent just a new version of fixed charge. In fact, a key conclusion of CUB's research is that demand charges work best, especially for low-income customers, when they are coupled with a decrease in fixed customer charges.

A call for greater transparency

Throughout the manual, a recurring theme is a lack of empirical data on the various impacts of DER growth. Two key areas highlight a need for greater transparency into utility operations: the relationship between DER adoption rate and costs/benefits to utilities, and the performance of DER compensation schema as they are implemented. These are policy questions that would benefit from an open, collaborative process with stakeholders that is informed with actual operational data from the utilities. Greater sharing of anonymous usage data would allow for more detailed research into alternative rate designs. A more transparent functionalization and allocation process would foster better understanding of utility embedded cost studies, allowing consumer advocates to be partners in developing a functional DER marketplace, rather than adversaries.

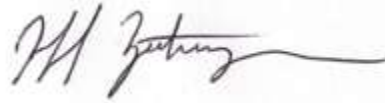
Conclusion

CUB appreciates the months of hard work the Staff Subcommittee on Rate Design has put into this manual, and respectfully submits these comments.

⁶ CUB believes LIHEAP-PIPP participation to be an imperfect marker for low-income status, and that more research is required into low-income electric usage patterns.

⁷ The disparity is highest among single family homes with gas heat, representing 63% of all customers analyzed, and lowest among homes with space heat, both multi- and single family, together representing less than 4% of customers.

Sincerely,

A handwritten signature in black ink, appearing to read "JH Zethmayr", with a long horizontal flourish extending to the right.

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