

# Consumer Power Advocates

Columbia University Medical Center  
Fordham University  
Memorial Sloan Kettering Cancer Center  
Montefiore Medical Center

Mount Sinai Health System  
New York Presbyterian Hospital  
New York University  
NYU Langone Medical Center

The College of New Rochelle

May 1, 2015

Honorable Kathleen Burgess  
Secretary  
New York Public Service Commission  
Three Empire State Plaza  
Albany, New York 12223-1350

RE: Case 14-M-0101- Reforming the Energy Vision

Dear Secretary Burgess,

These are the comments of Consumer Power advocates (CPA) regarding Microgrids in the above captioned proceedings. Consumer Power Advocates' mission is to lower energy costs for our members through representation in energy-related regulatory and legislative proceedings. CPA is an alliance of large not-for-profit institutions in the greater New York region. Our membership is open to hospitals, universities, medical schools, and cultural institutions. CPA members include some of the largest employers and energy users in New York State. Six of our recent member hospitals are among the 15 largest regional health organizations including five of the ten largest. Six current CPA members are among New York City's 25 largest employers, according to Crain's New York Business.

All communications, correspondence, and documents related to this proceeding should be directed to the following:

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Respectfully Submitted,

*Catherin Luthin*

Executive Director, Consumer Power Advocates

Cc: Active parties list

**STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION**

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**Proceeding on Motion of the  
Commission in Regard to  
Reforming the Energy Vision  
Case 14-M-0101**

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**NOTICE SOLICITING COMMENTS  
ON MICROGRIDS  
(Issued March 17, 2015)**

**Comments by Consumer Power  
Advocates**

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**Dated: May 1, 2015**

**Consumer Power Advocates  
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732-774-0005  
cluthin@luthin.com**

Consumer Power Advocates (CPA) is encouraged about the REV Proposal put forth by the Public Service Commission (the “Commission”). We support the Commission’s goals of encouraging the significant deployment of distributed energy resources (“DER”) and the necessary changes to traditional utility roles. We believe REV is moving along the path to increase value for customers while also improving reliability and hardening of the utility infrastructure. We look forward to providing Comments to the Commission on possible microgrid configurations that will be presumptively permissible as described in the Order Adopting Regulatory Policy Framework and Implementation Plan, issued February 26, 2015.

CPA sees this is an opportunity to inform the Commission of our general concerns about the future of microgrids and DERs as well as provide specific examples of barriers for DER development. Several of our recent projects have raised issues that illustrate the rate and regulatory barriers for the development of microgrids. These barriers include electric and steam standby rates, excessive gas delivery rates, and specific tariff provisions that unnecessarily restrict certain DER development.

Utility ratemaking has traditionally been based on the assumption that customers, as a group, should contribute the same amount of net revenue to the utility regardless of class. While this protects the utilities’ revenue interest, it also creates a barrier for DER development and therefore, microgrids. In the context of REV, this is no longer appropriate. The utilities’ stated interests have been to do what is best, in their opinion, for the customers when looking at rate design under REV and a free market system. The customers should have a greater role in the decision making process by allowing them a robust and free market place where decisions are made by customers for their own benefit.

The development of microgrids will create new, and perhaps large, value chains. DERs are a critical element of microgrids, and DER developers should expect a

significant share of these new value chains. Until these value chains are realized, there is significant risk to all participants that various obstacles will limit development. It is unreasonable to expect individual DER owners and developers to assume all the risks of development, including the risk that the value of microgrids may fall short of current expectations.

The following comments describe the regulatory obstacles to developing a robust microgrid infrastructure in New York.

### **What is a microgrid?**

In the February order, the PSC adopted the following definition of microgrids,

“[a] group of interconnected loads and distributed energy resources (DER) with clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid [and can] connect and disconnect from the grid to enable it to operate in both grid connected or island mode.”

CPA believes the definition should be modified as follows,

“[A] group of interconnected loads and distributed energy resources (DER) with clearly defined electrical boundaries that acts as a single controllable entity to optimize operations with respect to the grid in both grid connected or island mode. It is expected that microgrids will service multiple unrelated customers. A single entity will be responsible for load balancing.”

CPA’s changes reflect the idea that under REV, optimizing the grid, i.e. ensuring that the most reliable and efficient generation is utilized, is of paramount importance and should be recognized as such. We also want to ensure that the importance of load balancing is kept in its correct perspective as this is a critical element of the microgrid. Microgrids will take many shapes and sizes, including those owned by a single entity or multiple entities. Whatever the ownership, it

must be stressed that the traditional way of the utility requiring a, “single customer,” must be explicitly changed to allow multiple customer membership and ownership.

### **Single Ownership Requirements**

It is important that diverse organizations be allowed to partner in all of the DER opportunities. In the case of a third party developer or a group of customers, ownership of the DER and the host buildings should not be consigned to a single entity as it currently is for the Offset Tariff.<sup>1</sup>

For example, for many years Hospital Row, which includes York Avenue in the East 60s and 70s, has been discussed as a prime candidate for a microgrid. The proximity of high, load factor hospitals and research facilities combined with existing steam and chilled water distributions systems enhance its appeal. There are at least five separate institutions that can conceivably partner to develop a microgrid. In this case, the owner, a third party provider, or the collective businesses, would be permitted to own the microgrid and operate it as a single entity / contact with the Distribution Service Provider (DSP). Dealing with issues related to public rights of way may be a barrier that should be addressed.

However, we should not necessarily assume that the owners will need financing through a power purchase agreement or other means. They may use existing capital funds as the preferred financing instrument. Therefore, it is important that the regulations concerning microgrids enable these customers to sell and redistribute power to each other. Also, the ability of the DSP to enable billing to be accurately implemented across complex distribution scenarios must be developed.

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<sup>1</sup> Con Edison, Schedule for Electricity Service, P.S.C. No. 10 – Electricity, General Rule 20.2.1. (B).8.a.1). Leaf 157.2.

The New York Proton Center's \$238 million proton-beam therapy project in Harlem is an example of large medical and research institutions contributing capital to infrastructure development. In this case, Memorial Sloan Kettering, Mount Sinai Health System, Montefiore Health System and UnitedHealth Group are partnering in the project.

### **Data collection and privacy**

CPA believes all meter data, including any information gathered by advanced metering devices, is the property of the customer. As such, it should always be available to the customer on a timely basis and must never be shared with any party who is not designated by the customer to receive such data. To the extent the Commission determines an “opt out” or “opt in” approach to data sharing is appropriate, the terms of those options must be made clear in plain language. In all cases, a description of all types of collected data, the frequency of its collection and distribution along with the parties to which that data is disseminated, should be reported to the customer.

### **Utility ownership of the DERs and market power**

CPA is concerned that a DSP may use its position to favor utility owned DERs. Utilities clearly have superior access to technical information and enjoy access to lower cost capital. In such a market structure, it would be very difficult for independent developers of DERs to attract investment capital. Capital for financing could easily be directed to organizations like the DSP, which have a better risk profile than individual developers. The DSP will be much more aware and in a better position to influence regulatory change, giving them a leg up on the private organizations.

The Commission should carefully examine any utility proposal to own DERs, and limit such ownership to those situations in which no solution by an independent developer is available.

## **Standby Electric**

Standby rates are based on the assumption that standby customers, as a group, should contribute the same amount of net revenue to the utility as standard delivery service customers of equal internal load. While this protects the utilities' revenue interest, it also creates a barrier for DER development and therefore, microgrids. In the context of REV, this is no longer appropriate.

The signatory parties in the recent Joint Proposal (filed April 20 , 2015 in case 13\_E-0030) to extend the current Con Edison electric rates have taken a first step toward standby rate reform by providing the opportunity for existing customers to earn a credit against the contract demand charge (CD). The Commission has provided further standby rate relief (by order of April 20, 2015 in case 09-E-0109) by allowing the option for many new customers to take standard service for four years. However, CD charges remain the basis of current standby rates. They are intended to recover the utilities fixed cost, but in doing so they create an unavoidable cost for developers that is a barrier for DER development. The Con Ed CD credit proposal is welcome because it reduces standby costs, however, it is deeply flawed. By basing that credit on minimum generator output, it creates a perverse incentive to operate DERs in hours when the DER may not be the most efficient resource available. As structured, the credit might be lost based on a few DER outages (even given the allowances of the Joint Proposal), none of which may indicate poor operation of the DER or affect system reliability. The minimum generation credit might be lost if a generator trips because of system conditions, or even if there is an insufficient load on a disconnected microgrid. These situations are indicative of situations in which DER based microgrid potential could provide the most resiliency and customer value.

Standby rates should have these characteristics:

- They should reflect the system wide value provided by DERs.
- They should include correct incentives both for reliable operation of the DER and for system reliability.
- They should be predictable and not subject to large penalties for infrequent random failures.

Assuming a non-regressive standby rate can be developed, there is still an issue related to the ability of a system to be exempt from standby if the DER is less than 15% of building load.<sup>2</sup> What is the significance of 15% and has the utility studied the impact of an exclusion at a higher rate? We believe any such exclusion should be based on empirical data and not randomness. This would enable customers to opt out where it is beneficial.

Current tariffs allow a one-time option of standard service for certain specifically enumerated, efficient, generation technologies. A process should be developed to allow for easy expansion of that list as new technologies emerge. For example, batteries were originally considered generators by Con Edison, but they were not part of the new technology. The joint Con Edison/NYSERDA Demand Management Program, based on the level of its incentives, was a clear statement that Con Edison believed batteries to be an important and new DER technology. To our knowledge, no progress has been made by Con Edison in ruling on whether batteries are subject to standby rates. The deployment of this nascent and promising DER technology is left in regulatory limbo until a decision to exclude them from standby is made. This prevents customers from opting out where standby is an obstacle for development. In addition, a streamlined process should be adopted to enable future technologies to qualify for the exemption.

## **Standby Steam**

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<sup>2</sup> Ibid. General Rule 20.3.1, Leaf 161

Steam standby, SC 4, is typically required when combined heat and power (CHP) plants are used to meet part of the host's thermal load. Many of the arguments made for electric standby apply to steam as well.

- The DER should have an incentive to operate during high load hours as it provides relief to the steam system during peak hours.
- DER owners should operate without fear that one or a few random mishaps may impact their operating costs.
- Steam standby CD exceedances should not be counted in low load hours, or hours when the steam system has adequate capacity. Steam standby rates should not encourage steam customers to leave the steam system entirely.
- Steam standby rate policy should be consistent with electric standby rates and the potential changes recommended by Con Edison for credit allowances.

### **Interconnection**

We know of two cases where large campuses installed CHP projects with internal electric distribution systems to supply their various buildings. The buildings being serviced by the plant had existing electric services from Con Edison as well. The customers also paid Con Edison to construct high tension services for the plant that would enable them to transfer power to the buildings through their internal distribution when the plant was down; or, they could elect to take power from the individual building services.

Con Edison charges these customers CD rates for the peak demand levels of both the individual buildings and the peak demand of the high tension service. This double counts the standby requirement because the entire load can be served through the high tension service (which the customer paid for) and the internal distribution system. It would seem that this is a case of an already existing

microgrid which is paying more than they expected for what appears to be an incorrect interpretation of the standby charges. In appealing Con Edison's ruling for one of these customers, we made the following points in favor of restructuring the standby charges. Con Edison did not agree.

- **Double Risk Argument** - Con Edison cited a double risk argument suggesting that the risk being covered impacts the level of the CD charge. We believe the As Used Demand Charge handles the degree of risk being covered.
- **Separate Facilities Argument** - The interconnection costs for standby service at the primary voltage level were paid by the Customers. When we asked Con Edison to specify what separate i.e., unreimbursed primary and secondary distribution facilities were needed to serve these separate locations, none were provided.
- **Double Recovery Argument** - Standby rates were developed using a matrix which allocates costs to various voltage levels and demand classes. The method used by Con Edison to allocate cost results in the Customers being charged a rate that recovers more than 100% of the applicable costs attributed to them.
- **Single Site Argument** - In its December 17, 2007 order in Case 07-E-1033, regarding a tariff dispute between National Grid and Burrstone Energy Center LLC, the Commission clarified the scope of eligibility for standby service. The Commission ruled that the proposed cogeneration facility and all of the customers it was serving represented a single site. In this case, the Customer is the owner of the cogenerator and the buildings served. Thus, the Customer is a single standby customer and should not be subjected to two CD charges on the same load. The single site precedent is inconsistent with Con Edison's double imposition of CD charges.

- Fairness Argument – The Customer began discussing its cogeneration upgrade with Con Edison in August 2005. As of January 2009, Con Edison’s position was still that it would need to charge the Customer for having two separate backup services to an individual building, but it would not be at two CD charges because Con Edison did not realize twice the expense nor require twice the system capacity. Therefore, the Customer designed its internal distribution system at first contingency with this in mind. After the design was completed, Con Edison reversed its position. Had Con Edison set out its position on a timely basis, consideration would have been given to provide a second contingency design for the internal distribution. This would have eliminated the need to retain the existing Low Tension connections to Con Edison.
- Green Argument - Public policy favors clean, efficient cogeneration. As the NY Public Service Commission stated in the Burrstone Decision cited above. The cogeneration project is the cornerstone of the Customer’s sustainability effort. The Customer has committed to reducing emissions by at least 30% as part of New York City’s Mayoral Challenge of which the cogeneration project is the leading initiative.

Con Edison’s interpretation of the CD charge discourages the implementation of clean and efficient cogeneration power.

Another issue relates to campuses. Con Edison treats campuses differently than individual customers for interconnection purposes. Additional service requirements are evaluated for sufficiency by Con Edison from an overall campus perspective. For example, if a building needs a service reinforcement, Con Ed will consider it sufficient if there is available capacity from any other campus location anywhere on the campus, even if that location is across the street or down the block. They apply this to facilities that have separate utility accounts and or

separate Block and Lot designation. The customer would have to run electric service under the street or through a building or pay excess distribution charges. We believe this is unfair, it impacts the public right of way and should be corrected.

## **Gas Rates**

The microgrid vision is that DERs will be dispatched or controlled to allow the most efficient sources to operate at all times. In many hours, that may be a resource outside the microgrid. In this context, most efficient means the resource with the lowest marginal production cost. Excessive retail gas delivery rates cause the marginal operating cost for DERs to be higher than the marginal operating costs for wholesale generators. In addition to the higher rate, retail delivery customers are often assessed a higher percentage of lost and unaccounted for gas (LAUF) that further increases effective delivery costs for distributed generators (DGs) relative to wholesale generators. We are unaware of any evidence that marginal loss rates differ between wholesale and retail customers. To the extent the higher costs, including LAUF, paid by DGs are not justified by higher marginal costs, the DERs face an uphill playing field when competing against wholesale generators. This will cause those wholesale generators to be dispatched ahead of more efficient DERs.

Currently, the only alternative to Rider H is the Interruptible Rate. Interruptible customers are also disadvantaged by the revenue test used to determine the required customer contribution for new distribution facilities. The revenue test compares expected revenue to the cost of new facilities, but in the case of interruptible customers, only the minimum revenue is counted. Because the minimum volume is no more than half the expected full volume, this unfairly excludes a large amount of reasonably certain revenue, and increases the required contribution to service upgrades by interruptible customers. The revenue requirement for improving facilities for Interruptible customer DER projects should be based on actual revenue.

Finally, the recent trend for longer and more frequent interruptions further erodes the value of interruptible service, and increases the marginal cost of energy from DGs.

## **Redistribution**

In a recent project involving a high tension service designed for a project encompassing both commercial and residential usage, the service installation was designed in a manner that did not permit installing utility meters for the various parts of the building. The Commission approved changes to the tariff that would allow an SC9 customer to redistribute up to 50% of the estimated load to residential customers for high tension services and up to 10% of the area for low tension services.<sup>3</sup>

We recently encountered a project in which a hospital was selling part of its property to residential developers and installing a CHP system and may be pursuing a microgrid. The buildings being converted to residential currently receive electricity, steam and chilled water from the existing facility. The ability to resell electricity to the residential section is a key component to the project as it would enable them to qualify for better gas rates and provide revenue to help fund the DER. The residential buildings are greater than 10% of the facility's load. The residential load, because it has different energy usage characteristics from the hospital would also make the project more efficient as the peak loads, both thermal and electric, would occur at different times for the various buildings.

Making it easier to redistribute power provides economic advantages that could enhance the pro forma of microgrid projects and also attract entrepreneurial opportunities that would result in more microgrid development. This could

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<sup>3</sup> Con Edison, Schedule for Electricity Service, P.S.C. No. 10 – Electricity SC8 Special Provision C. 4 and 5; and, SC 9 Special Provision A.7; Leaves 442 and 456

benefit both the utilities and their customers from a financial as well as reliability standpoint.

When a microgrid is in island mode, the DERs will be the sole source of power for all local customers, including those with power supply contracts outside the microgrid. Moreover, power supplied by DERs will serve unrelated customers with whom there may not be a power purchase agreement. This is a serious business issue which has yet to be addressed. Our experience at NYISO convinces us that bill settlement will become a critical issue with the initiation of microgrids. The NYISO administers markets for some 300 generators, and its initial bills required years to settle. Settlement within a control area that may contain hundreds or thousands of individual customers may prove to be far more complex. If microgrids are to rely on DERs for energy and capacity, then an efficient and reliable way to provide payments to those DERs must be implemented. The current practice of using generator production to offset host load, or export power to the system at prices that are often below production cost, must be reconsidered.

Microgrids may include multifamily buildings. These structures have unique issues which should be addressed as described below:

- Multifamily buildings should be encouraged to sub-meter power to their tenants. This would encourage landlords to participate in a microgrid as a DER or controllable load, without diminishing the tenants' incentive to conserve.
- Multifamily buildings that install sub-meters are required to conform to a list of approved meters. A simple, streamlined process to qualify meters should be instituted to allow new metering technologies to be adopted promptly.
- Current practice does not allow net metering of solar power in buildings with CHP plants. This substantially limits the benefit of solar

generation for those building owners. Standby tariffs should be amended to restore an incentive for solar generation equal to the value of net metering. The offset tariff should be amended to allow landlords to use remote DERs to offset all or part of tenants' electric bills to receive the benefit of the DER.

## **Utility Property**

Utilities now own underutilized properties that are well situated, and suitably zoned for large power generation facilities. Suitable sites should be identified and made available to the developers of microgrids if property is underutilized and or excess.

## **Customer Provided Payments for Distribution Facilities**

Microgrids are likely to require additional distribution facilities to allow networks to accept power from DERs, and to allow networks to operate as islands. Current tariffs require individual customers to provide payments to cover the cost of distribution facility improvements, even in cases when those facilities may provide excess capacity to serve other customers, or may otherwise enhance utility operations. In some residential cases, those payments may be refunded in full or in part as new customers are served by customer provided facilities.

Reimbursement of customer contributions should be required in all cases where there is sufficient revenue growth to justify the original payment.

## **Recommendations**

Below is a summary of our recommendations for removing regulatory barriers for microgrids. Specific details about each recommendation are included in the body.

1. The definition of a microgrid should be modified to reflect the importance and allowance for optimizing grid performance, load balancing, multiple customer participation, billing and data management.

2. Barriers related to public rights of way should be examined.
3. Customer data should be considered confidential and not shared without customer permission.
4. DSPs should not be allowed to own microgrid assets.
5. Standby rates should be modified, or eliminated. In either case, they should accurately reflect the importance of developing DERs and the cost / benefit that DERs provide to the grid.
6. The 15% of building load exclusion should be analyzed and empirical data should be used to set the threshold.
7. A streamlined process to enable new DER technologies to qualify for standby exemption should be developed.
8. Steam standby rates should be aligned with electric standby.
9. Customers should not be burdened with twice the level of CD charges because they have constructed an additional (N +1) distribution system for their CHP plants.
10. Microgrids should not be treated as a single, campus entity for purposes of service upgrade cost responsibility.
11. The cost of gas to operate CHP should be competitive with merchant plants to enable the most efficient resources to contribute to power supply. Microgrids should not be seen as peaking plants, but as an integral part of the power supply equation.
12. The revenue test for service work to Interruptible customers should be based on actual revenue and not minimum revenue requirements.
13. Distribution of electricity and gas tariff regulations should be modified to allow for customers of different classes to potentially share meters and services.
14. Bill settlement and data management among microgrids should be carefully developed by the DSPs to eliminate billing issues.
15. Multifamily buildings should have access to the same opportunities as commercial buildings. Sub-metering should be encouraged as should flexibility with metering equipment.
16. Multifamily buildings should be allowed to offset DER power to their tenants.
17. Underutilized utility property should be made available to microgrid development owned by non-DSP entities.

## **Conclusion**

CPA appreciates the opportunity to be a part of the groundbreaking approach to develop a new utility infrastructure in New York. REV can be a transforming impact on the future of energy, but it must be balanced between the needs of the public good, the utilities and the customers.

The 17 recommendations and explanatory discussions throughout this document are meant to provide an early look at some of the obstacles for microgrids. As the development of these systems and DERs in general progress, we will find more obstacles and solutions. We encourage the Commission to keep this worthwhile dialogue open on an ongoing basis.