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Puerto Rico Energy Commission

Re: Comments to Proposed Regulation on Microgrid Development  
CEPR-MI-2018-0001

Dear Commissioners:

We are pleased to submit the following comments on the “Regulation on Microgrid Development (Proposed Rules)” (hereinafter, “Proposed Regulation”), published on January 3, 2018.

Specific sections of the Proposed Regulation are cited below, after which we are including suggestions and the reasons for the same.

**Section 1.08(B)(5)**

*Proposed Regulation:*

“Cooperative’ means a non-profit entity consisting of a group of customers who share ownership of a microgrid system.”

*Suggestion:*

“Cooperative’ means a non-profit entity consisting of at least three or more members who share ownership of a microgrid system. A cooperative under this Regulation does not require the formation under Act No. 239 of September 1, 2004, as amended.”

*Reason(s) for Suggestion:*

The added language would adapt the practical minimal number of members under the Proposed Regulation and would clarify that the term “cooperative” refers to the common meaning of ownership of more than one person and not the formal cooperative entity legislated under Act No. 239. In the latter case, a customer cooperative under the Proposed Regulation would also have to undergo formalities of Act No. 239.

### **Section 1.08(B)(10)**

*Proposed Regulation:*

“‘Distributed Renewable Energy’ means a Distributed Generator powered by sustainable renewable energy or alternative renewable energy supplying electric power to an electric power service company or generated for self-consumption or for sale to third-parties. Community Solar projects are considered distributed energy at the residential level.”

*Suggestion:*

“‘Distributed Renewable Energy’ means the energy generated by a Distributed Generator powered by sustainable renewable energy or alternative renewable energy supplying electric power to an electric power service company or generated for self-consumption or for sale to third-parties. Community Solar projects are considered distributed energy at the residential level.”

*Reason(s) for Suggestion:*

The proposed definition of “Distributed Renewable Energy” references the defined term “Distributed Generator.” The suggested addition of the phrase “the energy generated by” would distinguish “Distributed Renewable Energy” as the energy produced by a “Distributed Generator.”

### **Section 1.08(B)(22)**

*Proposed Regulation:*

“‘Interconnection Charge’ means the fair and reasonable amount of money that a person shall pay to PREPA for the right to connect his/her facility to the Electric Power Grid.”

*Suggestion:*

Interconnection Charge means the fair and reasonable amount of money that a Person shall pay for the right to connect to the Electric Power Grid or to a Microgrid.”

*Reason(s) for Suggestion:*

The above language references “Person” as defined in Section 1.08(B)28 and would also consider interconnection fees that Microgrid owners may have to charge their customers for interconnection, as well as fees payable to PREPA for interconnection to the Electric Power Grid. See more below on interconnection fees.

### **Section 2.01(B)**

*Proposed Regulation:*

“Microgrids may be owned by any of the following:

1. Individuals;
2. Partnerships;

3. Customer cooperatives of at least three or more members;
4. Single municipalities;
5. Groups of municipalities or any other administrative division of the Commonwealth;
6. Single non-profit or for profit entities and government entities, other than municipalities, and administrative divisions, excluding PREPA (hereafter referred to as ‘third-parties’);
7. PREPA;
8. Other ownership arrangements that are submitted to the Commission for review. Upon review of the proposed arrangement, the Commission will determine the applicable provisions of this Regulation.”

*Suggestion:*

“Microgrids may be owned by any of the following:

1. Individual natural persons;
2. Customer cooperatives of at least three or more members, which members may be natural persons or legal entities;
3. Single municipalities;
4. Groups of municipalities or any other administrative division of the Commonwealth;
5. Non-profit or for profit legal entities, such as corporations, limited liability companies, and partnerships;
6. Government entities, other than municipalities, and administrative divisions, excluding PREPA;
7. PREPA;
8. Other ownership arrangements that are submitted to the Commission for review. Upon review of the proposed arrangement, the Commission will determine the applicable provisions of this Regulation.”

*Reason(s) for Suggestion:*

These modifications would be more attune with the Proposed Regulation’s classifications. Common types of private legal entities such as corporations, partnerships and limited liability companies should be included specifically. Specification of individual natural persons would also help distinguish such owners from customer cooperatives, which are the predominant ownership structure in the Proposed Regulation, as well as from legal entities and other government entities. It clarifies that members of a cooperative may be legal entities as well. Government entities are separated from private entities also for clarity.

**Section 2.01(C)(2)-(3)**

*Proposed Regulation:*

- “2. Small systems are those with at least three (3) and no more than ten (10) customers or customer-owners and total generating capacity of no more than 250 kW; or

3. Large systems are those with more than 10 customers or generating capacity over 250 kW.”

*Suggestion:*

Please note that the phrase “customer-owners” included in subsection 2 is not included in subsection 3. Both sections should be uniform in that respect.

**Section 3.02(A)(2)-(4)**

*Proposed Regulation:*

“2. ‘Primary energy source’ means that:

- a. Seventy-five percent (75%) of the total energy input of the system (in MWh) on an annual basis must be from a renewable energy resource(s); and
  - b. The installed renewable energy generating capacity (in MW) of the system exceeds the expected peak load of the microgrid.
3. Use of any grade of fuel or natural gas by a microgrid is limited to those purposes identified in 18 C.F.R. § 292.204(b)(2). In particular, such use should be limited to the minimum amounts of fuel required to alleviate or prevent outages of electrical service to microgrid customers.
  4. Use of any grade of fuel oil or natural gas by a microgrid may not, in the aggregate, exceed twenty-five percent (25%) of the total energy input of the system during the 12-month period beginning with the date the facility first produces electric energy and any calendar year subsequent to the year in which the facility first produces electric energy.”

*Suggestion & Reason(s) for Suggestion:*

The proposed language appears to track the definition of a small power production facility under the Public Utility Regulatory Policies Act (“PURPA”). The intention of the Commission could be for the Renewable Microgrid, in addition to serving its customers, to be able to sell excess energy to PREPA at avoided cost. However, in practice, requiring such a high percentage – 75% on an annual basis – of the total energy input to come from renewable energy resources could make qualifying under this category very difficult considering current technologies and pricing. A lower percentage – to be determined by the Commission – should be considered in order to make qualifying under this category more economically feasible. If no modification is made, we would anticipate that most Microgrids would be developed as combined heat and power or hybrid systems. Conforming modifications should also be made to Sections 5.03 and 6.04.

### **Section 3.04. – Hybrid Microgrids**

*Proposed Regulation:*

- “A. Each hybrid system must show that the renewable portion of its generation capacity will comply with the requirements in Section 3.02 and that the combined heat-and-power portion of its generation capacity will comply with the requirements in Section 3.03 of this Regulation.”

*Suggestion & Reason(s) for Suggestion:*

This provision should be clarified given the above comment regarding the practical difficulties in qualifying as a Renewable Microgrid. Language used in Sections 5.03 and 6.04 regarding “separate demonstrations of compliance” appear to suggest that the renewable portion would not be operating in parallel with the CHP portion when in practice this may not be the case.

### **Section 4.03.- Rate for Service**

*Proposed Regulation:*

- “A. The cost-per-share shall be determined by the members of the cooperative.
- B. Cooperatives may collect deposits at the discretion of the members of the cooperative. Deposit amounts shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative.
- C. Cooperatives may charge rates based on consumption, peak load, or another metric at the discretion of the members of the cooperative. Rates shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative.”

*Suggestion:*

Add a subsection D to provide the following:

“Cooperatives may charge Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements, and penalties for non-payment. Such fees shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative, except that Cooperatives may charge different Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements, and penalties for non-payment based on proposed or actual consumption to be carried out by a member.”

*Reason(s) for Suggestion:*

The added subsection would provide for the reasonable and fair recouping of expenses, costs, and losses, such as non-payment by a customer. It would also allow cooperatives to charge different fees to different customers or members. It would be unfair to charge a residential member the same fees and reserves charged to a large commercial member which puts a greater load on the system.

**Section 4.04.- Fee for Use of PREPA Infrastructure**

*Proposed Regulation*

“If the microgrid will use PREPA infrastructure located within the boundary of the microgrid, the cooperative shall pay PREPA the amount of \$25 per month per customer to use such infrastructure, including meters and distribution equipment, up to an aggregate of \$250 per month.”

*Suggestion:*

“If the microgrid will use PREPA infrastructure located within the boundary of the microgrid, the cooperative shall pay PREPA the amount of \$25 per month per customer to use such infrastructure, including meters and distribution equipment, up to an aggregate of \$250 per month. Such charge shall also cover any required maintenance, repair or replacement of the infrastructure.”

*Reason(s) for Suggestion:*

In general, it is not clear from the Proposed Regulation who would have the responsibility to maintain, repair and replace the infrastructure. The \$25.00 fee should cover use as well as maintenance, repair and replacement costs to be borne by PREPA.

**Section 5.04.- Rate for Service**

*Proposed Regulation:*

- “A. The cost-per-share shall be determined by the members of the cooperative.
  
- B. Cooperatives may collect deposits at the discretion of the members of the cooperative. Deposit amounts shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative.
  
- C. Cooperatives may charge rates based on consumption, peak load, or another metric at the discretion of the members of the cooperative. Rates shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative.”

*Suggestion:*

Revise Section C.

“Cooperatives may charge rates based on consumption, peak load, or another metric at the discretion of the members of the cooperative. Rates shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative, except that Cooperatives may charge different Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements, and penalties for non-payment based on proposed or actual consumption to be carried out by a member.”

Add a subsection D to provide the following:

“Cooperatives may charge Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements, and penalties for non-payment. Such fees shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative.”

*Reason(s) for Suggestion:*

The revised subsection C would allow cooperatives to charge different fees to different customers or members. It would be unfair to charge a residential member the same fees and reserves charged to a large commercial member which puts a greater load on the system.

The added subsection D would allow for the reasonable and fair recouping of expenses, costs, and losses, such as non-payment by a customer.

**Section 6.03(D)**

*Proposed Regulation:*

“Number of customers: The application for registration must include the total expected number of customers to be served by the microgrid.”

*Suggestion:*

“Initial Number of customers: The application for registration must include the total expected number of customers to be served by the microgrid.”

*Reason(s) for Suggestion:*

This change clarifies that the system is not excluded from adding more customers in the future.

## Section 6.05.- Rate for Service

### Section 6.05(A)

#### *Proposed Regulation:*

“System owners must charge uniform rates across all customers of the same customer class of a single microgrid system. Within a customer class, rate structures such as inclining- or declining-block, time-of-use, and seasonal pricing may be used.”

#### *Suggestion:*

“System owners must charge uniform rates across all customers of the same customer class of a single microgrid system. Within a customer class, rate structures such as inclining- or declining-block, time-of-use, and seasonal pricing may be used. Rates shall be fair, just, and reasonable, and shall not discriminate against any individual members of the cooperative within a same class, except that Cooperatives may charge different Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements, and penalties for non-payment based on proposed or actual consumption to be carried out by a member.”

#### *Reason(s) for Suggestion:*

The revised subsection would allow cooperatives to charge different fees to different customers or members. It would be unfair to charge a residential member the same fees and reserves charged to a large commercial member which puts a greater load on the system.

### Section 6.05(B)

#### *Proposed Regulation:*

“The average rate at which energy and grid services are sold shall not exceed PREPA’s average rate of 20.22 cents per kilowatt-hour as of June 2017.”

#### *Suggestion:*

“The average rate at which energy and Grid Services are sold shall not exceed PREPA’s average rate of 20.22 cents per kilowatt-hour as of June 2017, excluding Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements and penalties for non-payment.”

#### *Reason(s) for Suggestion:*

The added language would allow for the reasonable and fair recouping of expenses, costs, and losses not related to amounts proceeding from rates. Also, “Grid Services” is capitalized since it is a defined term.

## Section 6.07.- Billing

### Section 6.07(A)

#### *Proposed Regulation:*

- A. Bills shall be rendered in regular periodic intervals for all customers taking service from the microgrid and in accordance with the terms of the contract. Payment shall be due within thirty (30) days of the issuance of the bill which may be issued electronically or by mail.

#### *Suggestion:*

- A. Bills shall be rendered in regular periodic intervals for all customers taking service from a Microgrid and in accordance with the terms of the contract, including Interconnection Fees, administrative fees, infrastructure fees, reserves for improvements and penalties for non-payment. Payment shall be due within thirty (30) days of the issuance of the bill, which may be issued electronically or by mail.”

#### *Reason(s) for Suggestion:*

The added phrase would consider a system owner’s capacity to recover costs not directly related to electric service.

### Section 6.10(A)

#### *Proposed Regulation:*

“Microgrid owners covered under Article 6 of this Regulation are prohibited from discriminating against individual customers in the immediate vicinity of the microgrid if those customers do not have access to PREPA service and would like to take service from the microgrid.”

#### *Suggestion:*

“A Microgrid owner covered under Article 6 of this Regulation is prohibited from discriminating against individual customers in the immediate vicinity of a Microgrid if those customers do not have access to PREPA service and would like to take service from such Microgrid. For purposes of this Section, the immediate vicinity of a Microgrid shall be clearly spatially defined by the Commission in relation to the electrical boundaries of a Microgrid as part of its registration process as specifically provided for in Article 7.02 of this Regulation.”

#### *Reason(s) for Suggestion:*

The immediate vicinity within which non-customers of a Microgrid is not defined in this section as proposed. However, since the definition of “Microgrid” entails that a Microgrid’s loads and resources must be clearly defined, and since the Commission must presumably approve such boundaries as part of the registration process, the

immediate vicinity where non-Microgrid customers reside could also be defined as part of such registration process, via site plans or other drawings. Also, the term “Microgrid” is capitalized since it is a defined term in the Proposed Regulation.

### **Section 6.11(C)(3)-(4)**

#### *Proposed Regulation:*

“3. Contracts may require a notice period for service termination, not to exceed sixty (60) days. The notice period will be the same for termination initiated by the customer or by the Microgrid owner.”

4. Microgrid owners may charge a reasonable exit fee for termination of service on non-metered systems during the first five (5) years of the contract period.”

#### *Suggestion:*

“3. Contracts may require a notice period for service termination, not to exceed one hundred and twenty (120) days. The notice period will be the same for termination initiated by the customer or by the Microgrid owner

4. Microgrid owners may charge a reasonable exit fee for termination of service on metered or non-metered systems during the first ten (10) years of the contract period.”

#### *Reason(s) for Suggestion:*

A sixty-day period for notice of service termination may be too short. Such term would also benefit customers.

Moreover, Microgrid owners should have the option of charging reasonable exit fees for metered systems as well, which are more common than non-metered systems. Finally, it is recommended that a more commercially reasonable period of ten (10) years be included to ensure investment recovery.

### **Section 6.14.- Rate Review**

#### *Proposed Regulation:*

“A. Any owner or customer of a municipal or third-party microgrid system may petition the Commission to conduct a rate review of service provided by that microgrid, subject to the following restrictions and requirements:

1. Microgrid rates shall not be subject to review by the Commission for the first three (3) years after the approval of their applications for registration by the Commission.

2. Petitions for rate review may be brought by either customers or system owners.
  - a. Customers may petition for rate review on the basis of unjust or unreasonable rates, on the basis of undue burden, or on the basis of imprudence or inadequate service on the part of the system owner.
  - b. Microgrid owners may petition for rate review on the basis of just or unreasonable rates or on the basis of insufficient cost recovery.

*Suggestion:*

"A. Any owner or customer of a municipal or third-party microgrid system may petition the Commission to conduct a rate review of service provided by that microgrid, subject to the following restrictions and requirements:

1. Microgrid rates shall not be subject to review by the Commission, at the behest of the Commission or customers, for the first three (3) years after the approval of their applications for registration by the Commission.
2. Petitions for rate review may be brought at any moment after approval of registration by system owners.
  - a. Customers may petition for rate review on the basis of unjust or unreasonable rates, on the basis of undue burden, or on the basis of imprudence or inadequate service on the part of the system owner.
  - b. Microgrid owners may petition for rate review on the basis of just or unreasonable rates or on the basis of insufficient cost recovery.

*Reason(s) for Suggestion:*

The suggested added language would clarify that system owners may petition the Commission to review rates at any moment and the Commission and customers would be able to do same albeit after three years of approval of microgrid authorization. This would enable system owners to revise rates more frequently and not be obligated to wait three (3) years which could have a material adverse effect on the continued operation of the system.

## **In General**

### **Section 1.08**

The Proposed Regulation does not contain a definition for "system." Though not necessarily using the term "system" interchangeably with "Microgrid," the Proposed Regulation may create

confusion by using it more frequently than “Microgrid.” A definition of “system” akin to that contained for “electrical system” in Act No. 57 of 2014 could be helpful.

### **Section 1.08**

The Proposed Regulation does not contain a definition for “Third-Party” yet it is another term used extensively. Though the meaning of “Third-Party” can be inferred as a person who owns a Microgrid to supply or sell energy to persons other than the owners of such Microgrid or to persons other than PREPA, the addition of a formal definition could also be helpful.

### **Sections 2.01(D), 4.01(B), 5.01(B), and 6.01(B)**

It is generally proposed that self-supply systems and third party systems would be able to sell energy to PREPA (excess energy in case of self-supply systems). However, the Proposed Regulation does not seem to consider events of outages, emergencies, or malfunctions as a result of which owners of a Microgrid may need to purchase energy from PREPA to in turn supply to its customers. While the underlying purpose of Microgrids is to serve as islanded sources of energy independent of a central grid, we would propose more flexibility in this regard. Including specific language to permit the supply or purchase of energy from PREPA’s central grid to a Microgrid in such circumstances would help safeguard customers of a Microgrid from being left without electric service.

We acknowledge the general prohibition on the re-sale of energy purchased from PREPA as prescribed in Section IX, Article F of PREPA’s Regulation of General Terms and Conditions for the Supply of Electric Power, Regulation No. 7982, as amended (“PREPA’s Terms and Conditions Regulation”). However, the purchase of energy from PREPA for the supply of a Microgrid owner to its own customers could be arranged under the same mechanism as provided for in Section X, Article B of PREPA’s Terms and Conditions Regulation, where the owner of a large structure purchases energy from PREPA through a single master meter at a wholesale rate, for which such owner is responsible. The owner may then charge lessees the energy consumed by them, measured through a sub-meter, subject to specific conditions. Such arrangement is considered a recovery of costs and approved by PREPA beforehand.

### **Section 6.05(B) and (C)**

The Proposed Regulation provides that the average rate at which energy and grid services are sold shall not exceed PREPA’s average rate of 20.22 cents per kilowatt-hour as of June, 2017. See Subsection B. Also, although the rate charged by system owners for energy and grid services may escalate yearly at a rate no greater than one-quarter of the percentage change in average fiscal-year “Other Goods and Services Consumer Price Index” from the Government Development Bank over the fiscal year 2017 of 116.4, in no event shall the rate exceed the greater of (1) the maximum rate established in Subsection B or (2) the whole-system average rate charged by PREPA, as measured over the most-recent twelve-month period for which sufficient data is available.

The Commission should address whether yearly escalation of rates would stop at 20.22 cents per kilowatt-hour or whether inflationary or future PREPA average rates would be taken into account.

**Articles 4, 5, 6 and 7.- Registration Process**

The regulation should provide for a registration process which allows for the approval of the design concept of the proposed system before committing funds to design or construction. For example, Sections 4.02, 5.02 and 6.03 presume that a proponent has already purchased equipment from a vendor and constructed and inspected a facility. The proposed registration process requires a large investment with the risk of not being approved by the Commission.

Very truly yours,



Carlos J. Fernández Lugo