

**GOVERNMENT OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION**

**IN RE: REGULATION ON MICROGRID
DEVELOPMENT**

CASE NO.: CEPR-MI-2018-0001

Subject: Adoption of Proposed Regulation
on Microgrid Development

RESOLUTION

1. Through this Resolution, the Puerto Rico Energy Commission (“Commission”) adopts and publishes the Regulation on Microgrid Development (“Final Microgrid Regulation”). As further explained below, the Final Microgrid Regulation sets the legal and regulatory framework required to promote and encourage the development of microgrid systems in Puerto Rico, enable customer choice and control over their electric service, increase system resiliency, foster energy efficiency and environmentally sustainable initiatives and spur economic growth by creating a new and emerging market for microgrid services.

I. Legal Basis

2. The Commission adopts and publishes this Resolution and the Final Microgrid Regulation pursuant to Act 57-2014, as amended, known as the Puerto Rico Energy Transformation and RELIEF Act; Act 82-2010, as amended, known as the Public Policy on Energy Diversification by Means of Sustainable and Alternative Renewable Energy in Puerto Rico Act; Act 83-2010, known as the Green Energy Incentives Act; and Act 38-2017, known as the Uniform Administrative Procedure Act of the Government of Puerto Rico (“LPAU”, for its Spanish acronym).

II. Introduction and Brief Background

3. On October 27, 2017, the Commission began an investigation with regards to the state of Puerto Rico’s electrical system as result of Hurricane María’s landfall on the Island (“October 27 Resolution”).¹ As a result of the damages to the electrical system and considering the critical role of the electric service in the economic development of the Island and the day to day lives of its citizens, the Commission determined that the restoration of electric service was one of the main objectives in the short term. The Commission also determined, however, that it was insufficient to identify strategies that allow for the restoration of electric service in the shortest possible amount of time if those strategies were

¹ Case No. CEPR-IN-2017-0002, In Re: Energy Commission Investigation Regarding the State of the Puerto Rico Electric System after the Passing of Hurricane María.

not followed and supported by long-term policies designed to promote the development of a resilient, modern and agile electric system.

4. On November 10, 2017, the Commission issued a Resolution and Order ("November 10 Resolution") identifying the installation of distributed generation, energy storage and microgrid systems as viable alternatives for assisting in:

(i) the speeding-up of the electric service restoration throughout the Island, through the deployment of distributed generation projects financed, developed and operated by private or non-governmental entities; (ii) the strengthening of the electric system, reducing dependence on centralized sources of generation; (iii) the facilitation of electric service restoration on future occasions through the use of distributed generation systems and microgrids capable of operating independently from the rest of the electric grid; and (iv) the transferring of the responsibility of the restoration and provision of electric service to multiple entities, allowing for greater access to economic, technical and human resources.²

5. On January 3, 2018, the Commission issued a Notice of Proposed Rulemaking through which it published its proposed Regulation on Microgrid Development ("Proposed Microgrid Rules"). Pursuant to LPAU, the Commission afforded the general public a 30-day period to file written public comments and suggested amendments and recommendations to the Proposed Microgrid Rules.

6. The Commission received a total of 38 written comments from persons and entities with a broad range of interests and experiences, from customers interested in gaining access to such services to entities engaged in the development of microgrid systems. The following entities filed comments: DT Energy Consultants ("D-TEC"), Organización Joven Pienso, Ricardo López Rivera, Javier Torres Espino, Dynamic Energy Networks ("DEN"), KOR Services LLC, ElectrIQ Power ("ElectrIQ"), John R. Henry, Schneider Electric, S&C Electric Co., Compañía de Fomento Industrial ("CFI"), Puerto Rico Association of Renewable Energy Consultants and Contractors ("ACONER"), Sunrun, Institute for Energy Economics and Financial Analysis ("IEEFA"), Enlace Latino de Acción Climática ("ELAC"), The Puerto Rico Electric Power Authority ("PREPA"), Tesla Inc., National Public Finance Guarantee Corp., Assured Guaranty Corp. and Assured Guaranty Municipal Corp. ("NPFGC"), McConnell Valdés, Ad Hoc Group of PREPA Bondholders ("Ad Hoc Bondholders"), Bloom Energy Corp., Sierra Club de Puerto Rico, Cámara de Comercio de Puerto Rico ("CCPR"), Chris Evanich, Francisco Laboy, Kevin W. Shockey, Energy Solutions Puerto Rico, Roberto D. Acosta, Oficina Independiente de Protección al Consumidor ("OIPC"), Instituto de Competitividad y Sostenibilidad Económica de Puerto Rico ("ICSE"), New York State Smart Grid Consortium, CAMBIO, Municipio de Bayamón ("Bayamón"), Energy & Environmental Consulting Services Corp. ("ESCOPR"), Natural Resources Defense Council ("NRDC"), US Green Building Council ("USGBC"), and the Conformity Assessment Steering Committee ("CASC").

² *Id.* at p. 2.

7. The Final Microgrid Regulation intends to promote the development of Microgrid systems by enabling their implementation through different business and operational models. The Final Microgrid Regulation recognizes three main types of microgrid systems: (i) Personal Microgrids; (ii) Cooperative Microgrids and (iii) Third-Party Microgrids.

8. Part III of this Resolution details the main revisions and amendments made to the Proposed Microgrid Rules and incorporated into the Final Microgrid Regulation. Part IV addresses additional issues raised by commenters or which are relevant to the Final Microgrid Regulation. Attachment A of this Resolution consists of the Final Microgrid Regulation. Attachment B of this Resolution contains a redlined version of the Final Microgrid Regulation providing a comparison of the Final Microgrid Regulation and the Proposed Microgrid Rules.

III. Main Revisions and Amendments Incorporated into the Final Microgrid Regulation

9. This part identifies and addresses the main revisions and amendments incorporated into the Final Microgrid Regulation. Aside from those described herein, the Commission made numerous additional changes designed to provide uniformity and clarity to the language and purposes of the Regulation. To review such changes, please refer to the redline version of the Final Microgrid Regulation included as Attachment B to this Resolution.

A. §1.08 – Definitions

10. The Commission made several revisions to the definitions included in the Proposed Microgrid Rules in order to simplify its content, increase their clarity and appropriateness, and exclude those deemed unnecessary or superfluous that, because of revisions made to other sections, were no longer necessary.

11. The terms “Cooperative Member”, “Distributed Generation”, “Microgrid Operator”, “Renewable Resource”, “Personal Microgrid” and “Third-Party Microgrid” were added to the definitions in Section 1.08 of the Final Microgrid Regulation. Of special importance are the terms “Personal Microgrid”, “Cooperative Microgrid” and “Third-Party Microgrid” which encompass the three main types or classes of Microgrid systems.

12. Personal Microgrids consist of systems owned by no more than two (2) energy consumers and designed, primarily, to supply the energy needs of such consumers. This type of Microgrid is not subject to specific regulatory requirements under the Final Microgrid Regulation, except for those provided in Section 2.02 of the Final Microgrid Regulation.

13. The term “Cooperative” included in the Proposed Microgrid Rules was revised to “Cooperative Microgrid.” Cooperative Microgrids permit three or more energy consumers to organize and jointly own and develop a microgrid system. The primary purpose of a

Cooperative Microgrid is to serve the energy needs of its Cooperative Members. Cooperative Microgrids could provide energy and other grid services to a person other than its Cooperative Members, subject to the provisions of Section 2.02 of the Final Microgrid Regulation.

14. Additionally, the definition “Cooperative Microgrid” was further amended to clarify that, for purposes of the Final Microgrid Regulation, said term refers to the joint-ownership of a Microgrid system by three or more Persons and that the term “Cooperative” does not refer to such term as it is used in Act 239-2004, as amended, known as the General Cooperative Associations Act. Accordingly, under the Final Microgrid Regulation, a Cooperative Microgrid may consist of an informal agreement between the corresponding parties or may be organized pursuant to either the Act 164-2009, as amended, known as the Puerto Rico General Corporations Act, Act 239-2004, or any other applicable law.

15. Third-Party Microgrids refer to systems developed for the purpose of selling energy services to customers, who have no ownership interest over the microgrid system, regardless of whether the owner of the system also receives energy services from the microgrid. In such cases, the microgrid provides services similarly to how a traditional utility would provide services to its customers and, therefore, Third-Party Microgrids are subject to additional requirements designed to define the rights and responsibilities of the microgrid owner/operator and its customers.

16. The terms “Ancillary Services”, “Energy Producer”, “Interconnection Charge”, “Load”, “Net Meter”, “Power Purchase Agreement” and “Transmission Infrastructure” were removed from the Final Microgrid Regulation because they were either not used throughout the Regulation or were no longer necessary given changes made to other sections of the Regulation. Finally, the term “Green Energy” was replaced by the term “Renewable Resources” to better reflect the concept being defined.

17. Certain commenters, mainly the Municipality of Bayamón (“Bayamón”) expressed concerns that the Proposed Microgrid Rules limited the ability of municipalities to engage in the development and operation of microgrid systems.³ These concerns are further addressed in the discussion related to the amendments to Section 2.01 of the Proposed Microgrid Rules. However, the Commission amended the definition of the term “Person” so that it includes municipalities and other government entities (excluding PREPA). Accordingly, any municipality, or group of municipalities (including municipal consortiums) may own, develop or operate microgrid systems.

18. Finally, the Commission decided to remove the term “Community Solar” from the definitions included in Section 1.08 of the Final Microgrid Regulation. While a microgrid may operate in a manner consistent with what is referred to as Community Solar, Microgrid and Community Solar are not interchangeable concepts. Community Solar refers to a community sharing ownership of a solar generating facility or agreeing to purchase the energy generated by such solar facility. Community Solar may refer to small, distributed

³ Comments of the Municipality of Bayamón at p. 12.

generation systems, operated and structured in a manner similar to a microgrid, or may refer to utility scale generating facilities. Act 133-2016 requires the Commission to define Community Solar. Because the Commission has yet to define the term Community Solar, doing so as part of this procedure would prevent the Commission from developing a definition and reaching the policy determinations that best promote the development of such initiatives. The Commission will, at a later date, initiate a procedure aimed at addressing the opportunities and benefits and societal values that may be derived from Community Solar initiatives.

19. The Commission also finds that removing the term Community Solar does not negatively impact or diminish the development of microgrids nor the overarching public policy contained in the Final Microgrid Regulation promoting the development of renewable and highly efficient distributed energy resources.

B. §2.01 – Microgrid Classification

20. The Proposed Microgrid Rule classified microgrid systems based on three characteristics: ownership structure, size and whether or not they engaged in the sale of energy services and/or other grid services. Section 2.01(B) of the Proposed Microgrid Rules identified numerous types of ownership structures, including sole proprietorships, partnerships, cooperatives, municipalities, corporations, non-profit organizations, among others.

21. Section 2.01(C) of the Proposed Microgrid Rules then divided microgrid systems into three categories based on size: (i) Individual, Small, and Large. Finally, Section 2.01(D) of the Proposed Microgrid Rules established that microgrid systems designed to produce energy primarily for the consumption by the owner(s) of the system would be classified as “self-supply microgrids” and prohibited such systems from selling energy services to any other person other than PREPA.

22. The Final Microgrid Regulation amended Section 2.01 to incorporate only three types (or classes) of microgrid systems: Personal, Cooperative, and Third-Party. Any of these types of microgrid systems may be owned or operated by any type of person, entity, municipality or government entity (other than PREPA) under whichever ownership structure and operating agreement they deem most appropriate. For purposes of the Final Microgrid Regulation, the key identifying factor is whether the main purpose of the system is to supply the needs of the system’s owners or engage in the sale of energy services to customers who are not, in turn, owners of the system.

23. Based on these factors, microgrid systems are categorized into two main groups: Personal Microgrids and Cooperatives, which primary purpose is to supply the need of its owners, and Third-Party, which primary purpose is to provide energy service to customers.

24. With regards to size, under Section 2.01(C) of the Proposed Microgrid Rules, Small Microgrids were those with 3-10 customers and generating capacity of 250kW or less,

while Large Microgrids were those with more than 10 customers and generating capacity in excess of 250kW. The Commission found that the number of customer criterion would create an undue burden on Small Microgrids whose overall generating capacity increased nominally but are no longer considered Small Microgrids due to exceeding the number of customers by, for example, one.

25. Identifying the size of a microgrid is useful for determining whether a microgrid system will be required to comply with certain reporting requirements. Because those requirements mainly relate to matters associated with the generation of electricity, a differentiation between system sizes based on quantity of customers is unnecessary. Additionally, size differentiation is only applicable to Cooperative Microgrids, because Third-Party Microgrids are subject to the same regulatory requirements, regardless of their generating capacity.

26. Accordingly, the Final Microgrid Regulation removes from Section 2.01(B) the provisions related to system's size and incorporates such provisions as a new Section 4.02 within Article 4, which contains the provisions specific to Cooperative Microgrids. Small Cooperative Microgrids, therefore, are those with a generating capacity of 250 kW or less, while Large Cooperative Microgrid are those with a generating capacity exceeding 250 kW. Large Cooperative Microgrids are required to comply with the reporting requirements set forth in Section 4.05 of the Final Microgrid Regulation.

27. Section 2.01(E) of the Proposed Microgrid Rules identified the sections of the Proposed Microgrid Rules that would apply to each type of microgrid, based on the three types of classifications previously used: ownership structure, size and engagement in the sale of energy services. Section 2.01(B) of the Final Microgrid Regulation replaces prior Section 2.01(E) by using only the three microgrid categories—Personal, Cooperative and Third-Party—as the basis for identifying the relevant sections of the Regulation.

28. ACONER suggested that the size division between small and large be set at 500 kW.⁴ CCPR suggested that 250 kW is too small to be a reasonable threshold.⁵ Tesla suggested the threshold be 500 kW and 20 customers.⁶ IEEFA expressed concern that the division between small and large systems was ambiguous and suggested the number of customers be the only differentiator between small and large systems.⁷ As described before, the distinction between small and large Microgrids only apply to Cooperative Microgrids. Large Cooperative Microgrids are required to submit annual reports on fuel usage, generation and sales, as well as copies of any reports required by the US EPA and the Puerto Rico

⁴ ACONER Comments, p. 2.

⁵ CCPR Comments, p. 4.

⁶ Tesla Comments, p. 2.

⁷ IEEFA Comments, p. 2.

Environmental Quality Board. Based on the nature of these reports, the Commission decided to retain the threshold between small and large Microgrids at 250 kW.

29. Finally, the Final Microgrid Regulation does not preclude PREPA from developing microgrids. Nor do they limit the ability of a municipality to enter into a contract with a third-party provider to develop a microgrid as suggested by Bayamón.⁸ A municipality can pursue the development of a microgrid itself or hire a third-party to do so. For example, among others, a municipality could (i) develop a microgrid system designed to supply the needs of a sports complex owned by the municipality (Personal Microgrid), (ii) along with two or more persons or entities, jointly own and develop a Microgrid designed to supply the needs of neighboring structures owned by the microgrid's owners, and (iii) develop, by itself or along with other parties or municipalities, a microgrid system designed to provide energy services to a particular group of constituents—regardless of whether the service is provided for a profit or not.

C. §2.02 – Sale of Energy Services and/or other Grid Services

30. The Final Microgrid Regulation incorporates a new Section 2.02 addressing the sale of energy services and/or other grid services by Personal Microgrids and Cooperative Microgrids systems. As a general rule, Personal Microgrids and Cooperative Microgrids are limited to providing energy and grid services only to its owners (or members, in the case of Cooperative Microgrids) and/or enter into other agreements with PREPA in order to provide such services.

31. Section 2.02(C), however, provides an exemption from the above-mentioned general rule for Personal Microgrids and Cooperative Microgrids to, after Commission authorization, provide excess energy or grid services to persons who are not owners (or cooperative members) of the system. Accordingly, Personal Microgrids and Cooperative Microgrids may request the Commission's authorization to provide (either free of charge or not) excess energy services and/or other grid services to neighboring customers, without being required to comply with the requirements applicable to a Third-Party Microgrid.

32. There is one basic principles delineating this exception: The sale of excess energy or the provision of other grid services to these neighboring customers must be incidental to the operation of the microgrid. The primary purpose in designing and developing the system cannot be to engage in the sale of energy services and/or other grid services to customers other than the owners or members of the system.

33. The purpose of including the exception described in Section 2.02(C) is to recognize the economical and societal benefits derived from allowing Personal and Cooperative Microgrids to provide, from time to time, energy services or other grid services to neighboring customers who are not themselves owners or members of the microgrid. The owners or members of the system may derive revenues from the sale of these services which would help alleviate financing, maintenance and operational costs. Neighboring customers,

⁸ Bayamón Comments, p 12.

on the other hand, may gain easy access to enhanced energy or grid services, such as reduced energy costs, back-up power, and enhanced reliability, among others, without requiring changes to the organizational structure of the microgrid system.

D. §3.02 – Eligible Generation Resources

34. The Final Microgrid Regulation compiles within a single section, the requirements and provisions regarding types of generation resources that may be used by a microgrid previously scattered throughout Sections 3.02, 3.03 and 3.04 of the Proposed Microgrid Rules.

35. Section 3.02 of the Final Microgrid Regulation maintains the 75-25 percent ratio between renewable and fossil fuel generation but amends the standard to refer to energy output rather than energy input. Accordingly, under the Final Microgrid Regulation, a renewable energy microgrid refers to a system of which 75% of its total energy output during a 12-month period is derived from a Renewable Resource. The remaining 25% of energy output may be derived from fossil-fuel generators. The Commission determined that focusing on energy output, rather than input, allows for sufficient and achievable reliable operation at reasonable costs.

36. Act 133-2016 introduced the concept of microgrid systems within the general framework established by Act 82-2010. Act 82-2010 sets forth the public policy goals related to the development of renewable energy resources, the reduction of traditional fossil fuel generation and the adoption of energy efficiency measures as means to reduce energy costs, diversify energy resources and reduce the impact of energy generation on the environment. Accordingly, microgrid systems in Puerto Rico must be, overall, consistent with such policy goals. The Commission found that requiring renewable microgrid systems to meet a minimum threshold of 75% of its energy output to be derived from renewable resources (plus storage), ensures compliance with Act 82-2010.

37. Additionally, the Commission added efficiency requirements for the fossil fuel generation portion of the microgrid by requiring the fuel used by the non-renewable portion of the generation to not exceed 2,500 Btu per total energy produced by the microgrid and limit the heat rate at full output of the non-renewable portion of the system to not exceed 13,000 Btu/kWh.⁹ These requirements ensure that renewable microgrids continue to comply with the public policy goals of Act 82-2010.

38. For combined heat and power (“CHP”) microgrid systems, the Commission maintained the requirements that the useful thermal energy output of the system be no less

⁹ As an example, this standard may be met by a generator operating at 10,000 Btu/kWh, providing 25% of the Microgrid electric energy.

than 50% the total energy output and that fuel input minus useful energy output is no greater than 7,000 Btu per kWh of generator output.¹⁰

39. The Final Microgrid Regulation retains the concept of hybrid microgrid systems. By hybrid microgrid systems the Commission refers to a microgrid that uses energy from both a CHP system and a renewable system, with up to 25% of the energy output of the renewable system being generated by fossil fuels. As an example, assume a hybrid microgrid system where 60% of its total energy output is supplied by the CHP portion of its generation and the remaining 40% is supplied by the renewable portion of its generation. If the renewable portion (40% of total generation) is comprised of a mix of solar and fossil fuel generators, only 25% of its output (i.e. 10% of total generation) can be generated from fossil fuels.

40. Because the renewable portion of the microgrid must comply with the requirements applicable to renewable microgrid systems, 75% of the total energy output generated by the renewable portion of the microgrid would be derived from the solar generators and the remaining 25% would be derived from fossil fuel generators. Accordingly, the total energy output by generation resource would be as follows: 60% of total generation would be derived from CHP, 30% from a renewable source and 10% from fossil fuel generators.

E. §3.03 – Forms of Demonstrating Compliance

41. The Final Microgrid Regulation adopts a new Section 3.03 which contains the mechanisms for demonstrating that a microgrid system complies with the requirements for each type of generation resource: renewable, CHP or hybrid, as applicable.

42. Consistent with the revisions to the 75-25 percent ratio of energy output threshold established for renewable microgrid systems, the Commission revised from 12.5¹¹ to 3.50 gallons the maximum fuel consumption permitted for a renewable microgrid with generating assets limited to solar photovoltaic and diesel-fired generators contained in Section 3.03(A)(3) of the Final Microgrid Regulation.

¹⁰ As detailed in Appendix B of the Final Microgrid Regulation, a CHP system with a Fuel input of 1,000 MMBtu and a useful thermal output of 700 MMBtu (which represents a net input of 300 MMBtu), that has a net electric output of 60 MWh will meet these requirements since its useful thermal output is 70% and its efficiency is 5,000 Btu/kWh. On the other hand, a CHP system with a Fuel input of 1,000 MMBtu and a useful thermal output of 350 MMBtu (which represents a net input of 650 MMBtu), that has a net electric output of 70 MWh will not meet these requirements since its useful thermal output is 35% and its efficiency is 9,286 Btu/kWh.

¹¹ It should be noted, however, that the original amount of 12.5 gallons was a typographical error. The Commission originally intended for such amount to be 1.25 gallons.

F. §3.04 – Codes and Standards

43. The Final Microgrid Regulation removes references to specific codes and standards and adopts a general requirement that microgrid systems must be compliant with the applicable codes and standards, as those codes and standards are identified from time to time by the Commission through resolution and/or order. Because codes and standards are subject to periodic revisions and changes in order to keep up with technological advances, incorporating specific references in the regulation would make it difficult for the Commission to keep such codes and standards up to date, since doing so would require initiating an amendment process to the existing regulations. Accordingly, the Commission determined to identify the applicable codes and standards through resolution and/or order, which would be revised from time to time to keep up with industry best-practices and prevailing technological advances. The codes and standards that shall apply at this time are identified in Resolution No. CEPR-MI-2018-0007.

G. §3.05 – Interconnection to the Electric Power Grid

44. Similar to the Forms of Demonstrating Compliance, the section authorizing microgrid systems to interconnect with PREPA's Electric Power Grid were spread throughout several articles, applicable to each type of microgrid system. Because they are the same requirement for all systems, incorporating them into a single section provides clarity, reduces duplication and increases simplicity.

45. A microgrid may interconnect with PREPA's system in accordance with applicable regulations adopted by PREPA for self-generating customers of comparable size and voltage. The necessary interconnection regulations shall be developed by PREPA and submitted to the Commission for review. Until an approved interconnection regulation is available, a microgrid may operate in "island" mode. On May 16, 2018, the Commission issued Order No. CEPR-MI-2018-0008 directing PREPA to develop and file for Commission review proposed interconnection regulation, within a term not to exceed 120 days.

46. CAMBIO, ElectrIQ and NPFGC stated that the regulations should be clear regarding the interconnection process with PREPA, since a potential ambiguity of the interconnection process may result in a stumbling block for future grid integration.¹² IEEFA raised concerns regarding whether PREPA would have an obligation to serve interconnected microgrid customers in the event that the microgrid does not serve its own customers.¹³ In addition, NPFGC raised an issue that PREPA may need to conduct system redesigning for PREPA assets now integrated into microgrid systems.¹⁴ Tesla recommended that interconnection requirements be defined or detailed with sufficient criteria to ensure that

¹² CAMBIO Comments at 3; ElectrIQ Power Comments at 9; NPFGC Comments at 5-6.

¹³ IEEFA comments at 4.

¹⁴ NPFGC Comments at 6.

interconnection costs do not become cost-prohibitive.¹⁵ OIPC also recommends time periods and regulations to interconnect microgrid systems to the PREPA system.¹⁶

47. The Commission recognizes the importance of having clearly defined interconnection requirements, standards and timetables. Accordingly, as stated above, the Commission has issued an order directing PREPA to develop and submit such interconnection regulation for Commission review within a term of 120 days. The Commission looks forward to commenter views on the proposed PREPA regulation.¹⁷

H. Articles 4 - Requirements for Cooperative Microgrids

48. In line with the amendments made in Section 2.01 regarding the manner in which microgrid systems are to be classified, the Final Microgrid Regulation amended Article 4 of the Proposed Microgrid Rules so that it is applicable to all Cooperative Microgrids. All requirements, including registration requirements, ownership and sale restrictions, and the provisions related to the allocation of cost among cooperative members are equally applicable to all Cooperative Microgrids, regardless of size.

49. Under the Proposed Microgrid Rules, the requirements established in Article 4 (applicable to Small Cooperative Microgrids) and those established in Article 5 (applicable to Large Cooperative Microgrids) were identical, except for the reporting requirement applicable only to Large Cooperative Microgrids. Therefore, there is no need for bifurcating the requirements applicable to Cooperative Microgrids into two separate articles.

50. The Commission notes that the section on forms of demonstrating compliance included in Article 5 (applicable to Large Cooperative Microgrids) of the Proposed Microgrid Rules was not included as part of the provisions of Article 4 applicable to Small Cooperative Microgrids. The Commission inadvertently omitted from Article 4 of the Proposed Microgrid Rules the requirement that Small Cooperative Microgrids also demonstrate being compliant with the requirements applicable to renewable, CHP or hybrid types of generation. Accordingly, under Article 4 of the Final Microgrid Regulation, both Small and Large Cooperative Microgrids must demonstrate compliance with the requirements applicable to generation resources.

I. Article 5 – Requirements for Third-Party Microgrids

51. In line with the amendments made in Section 2.01 regarding the manner in which microgrid systems are to be classified and the amendments made to Article 4, the Final Microgrid Regulation removed Article 5 of the Proposed Microgrid Rules and replaced it with

¹⁵ Tesla Comments, p. 3.

¹⁶ OIPC Comments, p. 9-10.

¹⁷ It should also be noted that existing PREPA interconnection regulations specifically exclude microgrid systems, thus the need for the development of new, microgrid specific, interconnection regulations.

a new Article 5, which incorporates the requirements applicable to Third-Party Microgrids. The term Third-Party Microgrid encompasses any microgrid systems owned and/or operated for the purpose of selling energy and/or other grid services to customers, including those owned and/or operated by municipalities or other government entities (other than PREPA).

52. Accordingly, Article 5 of the Final Microgrid Regulation removes the portions of Article 6 of the Proposed Microgrid Rules which distinguished between municipal systems and third-party.

J. §5.04 – Rate of Service

53. A number of commenters expressed concerns that the proposed rate cap should be increased, eliminated, or not applied in all situations.

54. NPFGC suggested that the price cap be increased by the approved \$0.031 per kWh transition charge, even though no such charge is currently in effect.¹⁸ McConnell Valdés suggests adding to the price cap undefined amounts of fees for interconnection, administration and infrastructure, reserves for improvements, and penalties for non-payment, on the grounds that the added language would allow for the reasonable and fair recovery of expenses, costs, and losses not related to amounts tied to rates.¹⁹

55. Schneider Electric suggests that Microgrid Systems should have rates that are similar to what the grid typically provides and requests flexibility on the rate restriction, given the numerous challenges in terrain, the nature of the connection to the main grid, the proposed restriction on the use of fuel and gas, and other considerations.²⁰

56. ICSE opines that the rules should not establish a cap for prices; rather, it should consider other means for price regulation, limited to when the microgrid is the sole option for the ratepayer or the group of ratepayers for energy security, quality, or reliability. ICSE further argues that fixing a price will limit the capacity of potential microgrid developers that offer services and costs tailored to customer needs (such as a customer paying a higher price for additional services which would not be possible on a predetermined cap).²¹

57. Sunrun asserts that certain projects may offer premium services such as 100 percent renewable generation or an increased level of power quality.²² ACONER suggests

¹⁸ NPFGC Comments, p. 4.

¹⁹ McConnell Valdés Comments, p. 8.

²⁰ Schneider Electric Comments, p. 2.

²¹ ICSE Comments, p. 2–3.

²² Sunrun Comments, p. 3.

that the cost of energy not be defined at a certain period; rather, that it be defined by the market and competition and that the average rate at which energy and grid services are sold be based on market forces.²³

58. Other commenters suggested that the \$0.2022 per kWh cap might be too high. Energy Solutions suggests that establishing such a price ceiling is an invitation for all developers to charge the ceiling price to their customers and that a reasonable margin on the return should be established by the FERC type rulings with community participation.”²⁴

59. The Commission amended the sections related to rate of service for Third-Party Microgrids and removed the \$0.2022 rate cap established in Section 6.05 of the Proposed Microgrid Rules.

60. Section 5.04 of the Final Microgrid Regulation replaces the proposed rate cap with a project-specific, cost-based rate. By removing the proposed rate cap and replacing it with a project-specific and cost-based rate, the Commission intends to provide microgrid owners with sufficient flexibility to develop systems which best address the customer’s needs and priorities.

61. However, the Final Microgrid Regulation maintains basic consumer-protection requirements, such as that the rates are uniform across customer classes (in those cases in which a system serves different classes of customers—such as residential and commercial) and that such rates are non-discriminatory.

62. Additionally, Third-Party Microgrid owners and/or operators are required to submit for Commission review their proposed rates, along with supporting documentation. In evaluating the proposed rates of each Third-Party Microgrid, the Commission will ensure that rates are just and reasonable, as such standard is used in Act 57-2014, and that they represent the owner and/or operator’s actual costs plus a reasonable rate of return.

63. The Commission believes this approach aligns the interests of microgrid owner and/or operators with those of its customers, by granting owner and/or operators flexibility to develop systems tailored to address the customer’s needs and preferences, while ensuring the rates charges for energy services are just and reasonable and not discriminatory.

K. §5.05 – Deposits

64. Section 5.05 of the Final Microgrid Regulation maintains the authorization to Third-Party Microgrids to require prospective customers the payment of a deposit. However, the Final Microgrid Regulation simplifies the requirements established in Section 6.06 of the

²³ ACONER Comments, p. 6.

²⁴ Energy Solutions Puerto Rico Comments, p. 3.

Proposed Microgrid Rules by only requiring that such deposits be reasonable and uniform across customer classes.

L. §5.08 – Complaint Procedure

65. The Final Microgrid Regulation adds a new Section 5.08 requiring Third-Party Microgrids to develop and notify to customers the procedure through which customers may notify any complaints or grievances (other than bill objections, addressed in Section 5.07) related to the services provided by the microgrid. Rather than imposing a specific procedure on the microgrid owner/operator, Section 5.08 directs the microgrid owner/operator to develop the procedure and notify such to each customer. This provision ensures that customers have an appropriate process to notify any complaints or grievances to the microgrid owner/operator, while providing the owner/operator the opportunity to address such complaints and grievances before they are notified to the Commission for formal resolution.

M. §5.09 – Standard Contract

66. Microgrid owner and/or operators are required to develop a standard contract form which shall apply uniformly throughout customer classes. While Section 5.09 does not require specific terms and conditions, it does identify basic contractual clauses which microgrid owners/operators must include in all of its customer contracts. Section 5.09 of the Final Microgrid Regulation amends Section 6.09 of the Proposed Microgrid Rules to expand on the clauses required to be included in customer contracts. The purpose of Section 5.09 is to ensure customers have the opportunity to fully familiarize themselves with the terms and conditions of the services they are to receive, as well as their rights and obligations under such service agreement. This section, along with its amendments, also seeks to ensure transparency and clarity during the contracting period, so as to reduce the likeliness of complaints or grievances arising from obscure, complex or unintelligible terms and conditions.

N. §5.11 – Contract Length and Exit Requirements

67. IEEFA raises the concern that under Section 6.11 of the Proposed Microgrid Rules, contracts may require a notice period for service termination, not to exceed 60 days, but does not state a minimum.²⁵ McConnell Valdés states that the time period should be extended to 120 days.²⁶

68. Section 5.11 of the Final Microgrid Regulation amends Section 6.11 of the Proposed Microgrid Rules to provide that, in the event of a termination of the contractual agreement, such termination must be preceded by at least a 30-day notice, therefore

²⁵ IEEFA Comments, p. 3.

²⁶ McConnell Valdés Comments, p.10.

establishing a minimum notification period and eliminating any constraint on the maximum amount of prior notice allowed.

69. IEEFA also sought clarification that in the event of a default by the microgrid owner that PREPA would be required to be the default provider. Sections 5.11(C)(5) and (6) of the Final Microgrid Regulation address this concern by detailing the rights and responsibilities of the Microgrid Operator in case of a default. In such cases, the Microgrid Operator may exercise due diligence to identify a new operator, ensure customer continue receiving uninterrupted energy services from PREPA, offer customer the option of assuming the ownership of the Microgrid through a Cooperative or provide any other guarantee, such as, but not limited to, performance bonds, which ensure continued and uninterrupted service to customers in the event of a default.

70. IEEFA also suggests that after five years, customers should be able to transfer their contract to the subsequent homeowner.²⁷

71. The Commission clarifies that the provisions related to the payment of an exit fee applies to situation in which the existing customer wishes to terminate his/her agreement with a microgrid system owner and/or operator. Nothing in the Final Microgrid Rules prevents or limits the customer's ability to transfer his/her contract for microgrid service to a new customer. For example, a customer who sells his/her home may freely transfer his/her contract for microgrid services to the new homeowner, without the need for payment of an exit fee if such transfer occurs within the first five years of the contract.

O. Rate Review

72. McConnell Valdés suggests that the Commission and customers be prohibited from reviewing microgrid rates for three years after registration of the microgrid, but that "system owners" be allowed to petition for rate review "at any moment after approval of registration."²⁸

73. The Commission believes a microgrid system owner and/or operator has the capability of proposing initial rates that will be sufficient to recover costs plus a reasonable rate of return for the first three years of the system's operation. Moreover, the Commission does not agree that there should be a prohibition on the customers or the Commission from exercising the same rights that the system owners seek.

P. Article 6 – Registration Process

74. Under Article 7 of the Proposed Microgrid Rules, the registration of a microgrid system occurred after the system had been designed and built. Under Article 6 of the Final Microgrid Regulation, the Commission adopted a two-tier registration process. The

²⁷ IEEFA Comments, p.3.

²⁸ McConnell Valdés Comments, p. 11.

first part of the process encompasses the initial registration of the system. During this step, the microgrid's owner and/or operator provides the Commission the information identified in Sections 4.02 (applicable to Cooperative Microgrids) and 5.03 (applicable to Third-Party Microgrids), the Commission then evaluates said information and, if the information is deemed complete and complaint, the Commission will grant registered status to the system.

75. The second step consists of the filing of compliance certifications once the microgrid system has been fully built. Filing of these compliance certifications is pre-requisite for the microgrid to be authorized to begin operation. However, once such information has been filed, the microgrid may begin operation without the need for further Commission authorization. The filing of the certifications shall be considered as a presumption that the microgrid was built and will operate within the parameters initially identified in the application for registration. A microgrid system may not begin operation prior to filing such certifications with the Commission. The Commission will review the certifications provided and will notify the microgrid owner/operator the result of such evaluation.

76. The purpose of this amendment is to reduce the regulatory impediment for microgrid systems to begin operation. The Commission will rely on the good faith of microgrid owners and/or operators certifying that the microgrid systems were built consistent with the information and designs originally submitted to the Commission. However, if, as part of the Commission's evaluation of the certifications provided by the microgrid owners and/or operators or as part of any investigative proceeding, the Commission determines that a system was built or is being operated in a manner which substantially diverge from the information originally provided to the Commission, the Commission may order such owner and/or operator to temporarily suspend operations until a final determination is made.

77. The Commission believes that these amendments address commenter concerns that the registration process takes place following the investment of capital for the project, but at the risk of not having the project approved by the Commission.²⁹

Q. Article 7 – Exemptions

78. Several commenters raised issues that demonstrated that an exemption or modification to the rules may be appropriate.³⁰ As originally proposed, Article 8 (now Article 7 of the Final Microgrid Regulation) addressed only exemptions from Article 2. The Commission concurs that there could be other circumstances that may justify an exemption from a specific regulation. The Commission therefore has broadened the language in Article 7 to cover the ability of any party to file for an exemption to any provision of the Final Microgrid Regulation. Moreover, this opportunity to file for an exemption shall be extended

²⁹ McConnell Valdés Comments, p. 13.

³⁰ See for example, Institute for Energy Economics and Financial Analysis (IEEFA), p. 2.

to after a microgrid is in operation in the event of an anticipated or proposed change in circumstances.

IV. Other Issues

A. The Concept of Microgrid Owner and Microgrid Operator

79. In the context of the Final Microgrid Regulation, the term “owner” refers to either the Person(s) who directly purchase the microgrid equipment or the Person(s) who lease the equipment from a microgrid equipment vendor or receive third-party financing services from such vendor. In both cases, the Person(s) making a monetary disbursement for the right to use the equipment is the Person(s) considered as the owner of the microgrid for purposes of the Final Microgrid Regulation. The entity selling or leasing the equipment, or that offers third-party financing services to the microgrid owner, has no obligations under the Final Microgrid Regulation, provided such entity does not offer Energy Services and/or Other Grid Services, as such terms are defined in the Regulation, or does not otherwise act as Microgrid Operator.

80. The Microgrid Operator, on the other hand, refers to the Person(s) who operate the system. In some cases, the Microgrid Owner may also be the Microgrid Operator. In other cases, the Microgrid Owner may outsource such function to a third-party, who then becomes the Microgrid Operator. The Microgrid Operator is the person responsible for overseeing the operation of the microgrid equipment, providing the contracted services to the customers (or members, in the case of a cooperative microgrid) and customer billing, when applicable. The majority of the responsibilities during the operational phase of a microgrid fall on the Person designated as the Microgrid Operator.

B. Cost-Benefit Analysis

81. Bayamón argues that Section 2.5 of the Puerto Rico Uniform Administrative Procedure Act requires that any new regulation include a justification and a cost-benefit analysis.³¹ Bayamón submits that various aspects of the regulations have potential system cost and economic feasibility impacts.

82. The Commission finds that these concerns are not well-founded. The overall benefit of the Final Microgrid Regulation is that they empower customers to self-generate, in a manner that provides economic benefits to those customers, not only in terms of the potential cost of electricity, but also in providing businesses with the ability to operate where electric service is not available or not reliable. The availability of a microgrid option is fully consistent with existing public policy under Act 57-2014, the Governor’s statements and

³¹ Bayamón Comments, p. 10

PREPA's comments on the importance of microgrids.³² Given current circumstances, including continued outages, PREPA's limited resources, and volatile fossil fuel costs, among others, the ability to receive power from a microgrid outweighs any costs that may arise from complying with these regulations. The alternative of not having power, given the current state of PREPA's grid, is clearly sufficient to meet a cost-benefit analysis requirement.

83. Given the outages experienced during hurricanes Irma and Maria and the need to diversify energy resources, reduce dependency on fossil fuel and foster energy independence as a choice, any burden created by the need to comply with these requirements is nominal when compared to the benefits derived, by the customer, on one hand, whom receives greater control over his energy needs, and microgrid developers, on the other, who are able to make informed and objective investment decisions based on a predictable regulatory framework.

84. Furthermore, these rules do not impose, nor intend to impose, undue burden on microgrid owner and/or developers, because most of the information to be provided to the Commission is information they would otherwise need to produce or provide, either as part of the design and development process or as part of permitting procedures before other government entities. Additionally, the interests of microgrid developers are also aligned with the interest of consumers, by requiring transparency and full disclosure of all information, rights and responsibilities, so that customers and microgrid owners/developers are aware of their rights and obligations.

85. Finally, many of the amendments described in Part III above were made with the purpose of providing greater flexibility, reducing unnecessary requirements, and providing both developers and customers greater access to microgrid service alternatives and markets.

C. Compliance with Other Regulations

86. Several parties pointed out that there are many other requirements for a microgrid owner or operator to comply with, including siting, construction, and environmental concerns.³³ The Commission emphasizes here that meeting the requirements of these microgrid rules does not, in any way, exempts any microgrid owner/operator from any other requirements of the Commonwealth and federal laws and regulations, and it is the

³² Act 57, §2,6; "I am 100 percent backing renewables. This is an opportunity to make microgrids in Puerto Rico so they can be sustained in different areas." Statement of Governor Ricardo Rosselló to the Senate Energy and Natural Resources Committee, November 14, 2017. <https://www.vox.com/energy-and-environment/2017/10/19/16431312/elon-musk-richard-branson-clean-energy-puerto-rico-solar-batteries-microgrid>. "Build Back Better: Reimagining and Strengthening the Power Grid of Puerto Rico," prepared by PREPA et. al. for Governor Rosselló, December 2017. PREPA Amended & Restated Fiscal Plan, January 24, 2018; PREPA Comments, p.1.

³³ Ad Hoc Group of PREPA Bondholders (Ad Hoc Bondholders), p. 12.

responsibility of every microgrid owner and/or operator to ensure that its microgrid project is in compliance with all Commonwealth and federal rules and regulations, including any applicable local rules and regulations. Accordingly, the Commission has clarified this point in Section 1.17.

87. Further, several parties commented that the Commission should play a role in, or setting forth policies for, determining appropriate siting for microgrids.³⁴ Siting issues are beyond the scope of the Commission's jurisdiction and should be addressed before the appropriate government agencies.

D. Qualified Hydropower

88. The Municipality of Bayamón commented that the definition of Alternative Renewable Energy Resource contained in the Proposed Microgrid Regulation excludes the term "Qualified Hydropower" and that such exclusion is contrary to Act 133-2016.³⁵

89. Qualified Hydropower is included in the definition of Sustainable Renewable Energy Resources. The Commission used the term "Sustainable Renewable Energy", defined in Act 82-2010, as amended by Act 133-2016, as the basis for defining this term in both, the Proposed Microgrid Rules and the Final Microgrid Regulation. As such, Qualified hydropower is a source of generation expressly contemplated in the Final Microgrid Regulation.

E. Use of PREPA Infrastructure

90. The Proposed Microgrid Rules contemplated microgrid systems purchasing or leasing PREPA equipment (such as lines, poles, etc.) so that said equipment would be used by the microgrid system. The Proposed Microgrid Rules then established the procedure to determine the fees to be paid to PREPA for the purchase or lease of such equipment.

91. PREPA raises concerns as to whether the Commission can order the sale or lease of PREPA property, and whether those actions would require the approval of the Federal Court, given PREPA had filed for PROMESA Title III restructuring.³⁶ Similarly, the Ad Hoc Bondholders argued that the PREPA 1974 Trust Agreement, under which PREPA's bonds have been issued, requires bondholder consent for the sale or lease of property owned by PREPA.³⁷

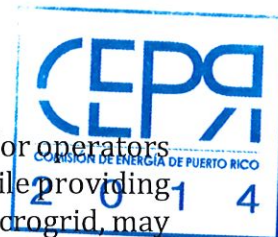
92. The Commission determined to remove from the Final Microgrid Regulation the provisions related to the use of PREPA infrastructure. The Commission's original intention

³⁴ See for example, CAMBIO Comments, p. 3.

³⁵ Bayamón Comments at p. 9.

³⁶ PREPA Comments at 5.

³⁷ Ad Hoc Bondholders Comments at 2.

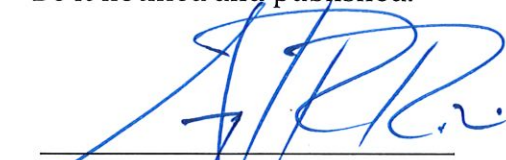


was to facilitate the development of microgrid systems by allowing owners and/or operators access to existing infrastructure, therefore reducing the infrastructure costs while providing PREPA a source of revenue for equipment that, given the development of the microgrid, may be under-utilized or not used at all.

93. However, questions related to maintenance responsibilities, responsibilities for replacing infrastructure due to *force majeure* events, adequate pricing of use fees, possible changes in design required for isolation of the equipment, led the Commission to conclude that requiring PREPA to provide access to such infrastructure was not appropriate at this time.

94. The Commission will monitor market development and will determine at a later time if further action on this matter is required.

Be it notified and published.


Ángel R. Rivera de la Cruz
Associate Commissioner


José H. Román Morales
Associate Commissioner
Interim Chairman

CERTIFICATION

I hereby certify that the majority of the members of the Puerto Rico Energy Commission has so agreed on May 16, 2018 and on this date, I have proceeded with the filing of the Resolution issued by the Puerto Rico Energy Commission. For the record, I sign this in San Juan, Puerto Rico, today May 16, 2018.


María del Mar Cintrón Alvarado
Clerk



REGULATION ON MICROGRID DEVELOPMENT

TABLE OF CONTENTS

CHAPTER I - GENERAL PROVISIONS.....	4
ARTICLE 1.- GENERAL PROVISIONS	4
Section 1.01.- Title.....	4
Section 1.02.- Legal Basis.....	4
Section 1.03.- Purpose and Executive Summary.	4
Section 1.04.- Applicability	5
Section 1.05.- Interpretation.....	5
Section 1.06.- Provisions of Other Regulations.	5
Section 1.07.- Unforeseen Proceedings.	5
Section 1.08.- Definitions.....	5
Section 1.09.- Controlling Version.....	9
Section 1.10.- Severability.....	9
Section 1.11.- Forms.....	9
Section 1.12.- Mode of Submission.....	10
Section 1.13.- Effect of Submission.....	10
Section 1.14.- Confidential Information.....	10
Section 1.15.- Validity.....	10
Section 1.16.- Penalties for Non-Compliance	10
Section 1.17.- Compliance with Other Applicable Legal Requirements	11
CHAPTER II - MICROGRID PROVISIONS	11
ARTICLE 2.- MICROGRID CATEGORIES	11
Section 2.01.- Microgrid Classification.	11
Section 2.02.- Sale of Energy Services and other Grid Services.	12
ARTICLE 3.- MICROGRID TECHNICAL REQUIREMENTS.....	12
Section 3.01.- Microgrid Composition.....	12
Section 3.03.- Eligible Generation Resources.....	12
Section 3.04.- Forms of Demonstrating Compliance	14
Section 3.05.- Codes and Standards.....	15
Section 3.06.- Interconnection with PREPA's System.....	16
ARTICLE 4.- REQUIREMENTS FOR COOPERATIVE MICROGRIDS	16
Section 4.01.- Ownership Restriction.....	16
Section 4.02.- Size of Cooperative Microgrids.....	16
Section 4.03.- Application and Registration.....	16
Section 4.04.- Rate for Service.....	17
Section 4.05.- Additional Requirements Applicable to Large Cooperatives.....	18
ARTICLE 5.- REQUIREMENTS FOR THIRD-PARTY MICROGRIDS	18
Section 5.01.- Ownership and Sales Restrictions	18
Section 5.02.- Certification	18
Section 5.03.- Registration	19
Section 5.04.- Rate Structure.....	20
Section 5.05.- Deposits	21
Section 5.06.- Billing.....	21
Section 5.07.- Bill Objections and Suspension of Service	21

Section 5.08.- Complaint Procedure.....	21
Section 5.09.- Standard Contract	22
Section 5.10.- Non-Discrimination.....	22
Section 5.11.- Contract Length and Exit Requirements	23
Section 5.12.- Reporting	24
Section 5.13.- Rate Review	25
CHAPTER III PROCEDURES	25
ARTICLE 6.- REGISTRATION PROCESS.....	25
Section 6.01.- Registration Form	25
Section 6.02.- Commission Review	25
Section 6.03.- Compliance Certifications	26
Section 6.04.- Filing Fee.....	27
ARTICLE 7.- EXEMPTIONS	27
ARTICLE 8.- RECONSIDERATION AND JUDICIAL REVIEW	27
Section 8.01.- Request for Reconsideration	27
Section 8.02.- Judicial Review.....	28

REGULATION ON MICROGRID DEVELOPMENT

CHAPTER I - GENERAL PROVISIONS

ARTICLE 1.- GENERAL PROVISIONS

Section 1.01.- Title.

This Regulation shall be known as the Regulation on Microgrid Development of the Puerto Rico Energy Commission.

Section 1.02.- Legal Basis.

This Regulation is adopted pursuant to Act 57-2014, as amended, known as the Puerto Rico Energy Transformation and RELIEF Act; Act 82-2010, as amended, known as the Public Policy on Energy Diversification by Means of Sustainable and Alternative Renewable Energy in Puerto Rico Act; Act 83-2010, known as the Green Energy Incentives Act; and Act 38-2017, known as the Uniform Administrative Procedure Act of the Government of Puerto Rico (“LPAU”, for its Spanish acronym).

Section 1.03.- Purpose and Executive Summary.

The Puerto Rico Energy Commission (“Commission”) adopts and enacts this Regulation to assist in the development of Microgrids throughout Puerto Rico. The prolonged outages and its impacts on the citizens of Puerto Rico caused by Hurricanes Irma and Maria highlights the need to foster the creation of Microgrids as a means of delivering reliable energy services to customers in need, avoiding the loss of power at critical facilities, promoting customer choice, reducing carbon pollution and spurring economic development while integrating new technology and industry trends into Puerto Rico’s energy market. Accordingly, Microgrids and other distributed generation resources are a key component of the Government of Puerto Rico’s strategy for rebuilding and strengthening Puerto Rico’s electric power system.¹

The Commission seeks to harness the potential of decentralized energy resources including those identified as sustainable renewable or alternative renewable energy resources, as defined by Act 82-2010; combined heat-and-power; and other distributed resources, to strengthen the resiliency of the electric grid, empower customers, and increase reliance on renewable and highly-efficient resources across the Commonwealth. One statutory goal of microgrids is to reduce energy consumption based on fossil fuels through local renewable energy generation.

Because Microgrids can operate in an “islanded” mode, disconnected from the electric grid, they are able to independently provide electric service during grid outage

¹ See Request for Federal Assistance for Disaster Recovery, Build Back Better Puerto Rico, November 2017 at pp. 15-19.

periods or interruptions. Microgrids can contribute to rapid restoration of service, as there are areas where power could be restored quicker by the deployment of Microgrids rather than waiting reconnection to the grid at large.

With this Regulation, the Commission intends to provide a stable and predictable regulatory framework, capable of fostering innovation and economic growth through continued investments in the development and deployment of Microgrid systems.

Section 1.04.- Applicability.

This Regulation shall apply to the registration, development and operation of Microgrids that serve end-use customers.

Section 1.05.- Interpretation.

This Regulation shall be interpreted in a way that promotes the highest public good and the protection of the interests of the residents of Puerto Rico, and in such a way that the deployment of Microgrids are carried out rapidly, justly, and economically.

Section 1.06.- Provisions of Other Regulations.

This Regulation may be supplemented by the provisions of other regulations of the Puerto Rico Energy Commission that are compatible with the provisions of this Regulation.

Section 1.07.- Unforeseen Proceedings.

When a specific proceeding has not been planned for in this Regulation, the Commission may attend to it in any way that is consistent with Act 57-2014.

Section 1.08.- Definitions.

- A. These definitions are to be used for this Regulation and are not intended to modify the definitions used in any other Commission regulation or order.
- B. For the purposes of this Regulation, the following terms will have the meaning established below, except when the context of the content of any provision clearly indicates something else:
 - 1. “Alternative Renewable Energy Resources” refers to the energy sources listed in Section 1.4(13) of Act 82-2010, specifically:
 - i. Conversion of municipal solid waste;
 - ii. Landfill gas combustion;
 - iii. Anaerobic digestion;
 - iv. Fuel cells; and

- v. Any other energy that the Commonwealth Energy Public Policy Office may define in the future through regulations as alternative renewable energy.
- 2. “Combined heat-and-power” (CHP) means equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the integrated use of technology.
- 3. “Commission” means the Puerto Rico Energy Commission.
- 4. “Cooperative Member” or “Member” means a Person who, along with two or more Persons, share ownership interest in a Cooperative Microgrid and receive Energy Services and/or other Grid Services from the Cooperative.
- 5. “Cooperative Microgrid” means the joint-ownership of a Microgrid by three or more Cooperative Members through formal or informal organization or association. For purposes of this Regulation, a Cooperative may, but need not be, organized or operated pursuant to Act 164-2009, as amended, known as the Puerto Rico General Corporations Act or Act 239-2004, as amended, known as the General Cooperative Associations Act. The primary purpose of a Cooperative Microgrid is to supply Energy Services or Grid Services to its Cooperative Members.
- 6. “Customer” means any Person, as such term is defined herein, who consumes or uses electric power or energy services from a Third-Party Microgrid.
- 7. “Distributed Energy Resources” means Distributed Generation or electric energy storage.
- 8. “Distributed Generation” means an electric power generation facility in Puerto Rico connected to the Distribution Infrastructure or to a Microgrid and/or producing power for self-supply or sale.
- 9. “Distribution Infrastructure” means the physical equipment used to distribute electric power at voltages below 38,000 volts, including but not limited to poles, primary lines, secondary lines, service drops, transformers and Meters.
- 10. “Distributed Renewable Energy” means Distributed Generation powered by Renewable Resources which generates electric power for self-consumption, sale to third-parties or to supply an Electric Service Company.

11. "Electric Bill" means the document sent periodically by the Electric Service Company to a Customer listing all the components, charges, or rates that make up the final consumption cost each Customer must pay.
12. "Electric Power Distribution" or "Distribution" means the delivery of electric power from any electric substation or generator to any Customer through Distribution Infrastructure.
13. "Electric Power Grid" means the electric power transmission and Distribution Infrastructure of the Commonwealth of Puerto Rico.
14. "Energy Service" means electricity service provided to a Customer in Puerto Rico by an Electric Service Company.
15. "Electric Service Company" means any Person engaged in the generation, transmission, distribution, billing, or resale of electric power.
16. "Energy Storage" means any resource located in the Microgrid that is capable of receiving electric energy from the Electric Power Grid or any other generation resource, for later injection of electricity back to the Electric Power Grid or to serve any load.
17. "Grid Services" include ancillary services, demand response and other services supporting Distribution Infrastructure and/or Electric Power Distribution.
18. "Interconnection" means the connection of Distributed Energy Resources to Distribution Infrastructure.
19. "Meter" means the equipment used to measure consumption and/or generation of energy at the point of connection between an individual Customer or Cooperative Member and a Microgrid or Distribution Infrastructure, as well as associated communications and control capabilities.
20. "Microgrid" means a group of interconnected loads and Distributed Energy Resources within clearly defined electrical boundaries that acts as a single controllable entity that can connect and disconnect from the Electric Power Grid to enable it to operate in either grid-connected or off-the-grid (islanded) mode.
21. "Microgrid Operator" means the registered operator of a Microgrid, which shall be the primary party responsible for overseeing the operation of the microgrid equipment (including, but not limited to, Distributed Energy Resources and Distribution Infrastructure), providing maintenance, delivering contracted services, billing for such

services, and serving as the primary point of contact. The Microgrid Operator may or may not be the owner of the Microgrid.

22. "Municipality" means the local government legal entity organized and existing pursuant to Article VI, §1 of the Constitution of the Commonwealth of Puerto Rico and Act No. 81 of August 30, 1991, as amended, known as the Autonomous Municipality Act of the Commonwealth of Puerto Rico.
23. "Owner" refers to the Person or Persons with a direct proprietary interest in a Microgrid system. The proprietary interest over a Microgrid system is separate and independent from the proprietary interest over the equipment used by the Microgrid to supply Energy Services and/or Other Grid Services. As such, Microgrid equipment vendors who lease or offer third-party financing options are not subject to the provisions of this Regulation, provided such equipment vendors do not offer Energy Services and/or Other Grid Services, as such terms are defined herein, or do not otherwise act as Microgrid Operator.
24. "Person" means a natural person; a legal entity created, organized, or existing under the laws of the Commonwealth of Puerto Rico, the United States of America, any state of the union, or any foreign state or country; a Municipality or a consortium of Municipalities; or a government entity (other than PREPA).
25. "Personal Microgrid" means a Microgrid owned by no more than two Persons producing energy primarily for consumption by its owner(s).
26. "PREPA" means the Puerto Rico Electric Power Authority, a corporate entity created by virtue of Act No. 83 of May 2, 1941, as amended, and any successor distribution or transmission owner or operator.
27. "Renewable Resource" means any combination of Alternative Renewable Energy Resources or Sustainable Renewable Energy Resources.
28. "Sustainable Renewable Energy Resource" refers to the energy sources listed in Section 1.4(15) of Act 82-2010, specifically:
 - i. Solar energy;
 - ii. Wind energy;
 - iii. Geothermal energy;
 - iv. Renewable Biomass Combustion;
 - v. Renewable Biomass Gas Combustion;

- vi. Combustion of biofuel derived solely from renewable biomass;
- vii. Qualified hydropower;
- viii. Marine and hydrokinetic renewable energy, as defined in Section 632 of the “Energy Independence and Security Act of 2007” (Public Law 110-140, 42, U.S.C. § 17211);
- ix. Ocean thermal energy; or
- x. Any other clean and/or renewable energy that the Commission may define in the future through regulation or order as renewable energy.

29. “Third-Party Microgrid” means a Microgrid that is not a Personal Microgrid or a Cooperative, and is owned and/or operated by any Person or Persons for the primary purpose of engaging in the sale of Energy Services and/or Other Grid Services to Customers.

- C. Every word used in the singular in this Regulation shall be understood to also include the plural unless the context indicates otherwise.

Section 1.09.- Controlling Version.

Should any discrepancy between the Spanish version and the English version of this Regulation arise, the provisions of the English version shall prevail.

Section 1.10.- Severability.

If any article, provision, word, sentence, paragraph, or section of this Regulation is disputed, for any reason, before a court and declared unconstitutional or void, such ruling shall not affect, damage, or invalidate the remaining provisions of this Regulation, but their effect shall be limited to the article, provision, word, sentence, paragraph, or section that is declared unconstitutional or void. The nullity or invalidity of any article, word, sentence, paragraph, or section in any specific case, shall not affect or jeopardize in any way its application or validity in any other case, except if it specifically and expressly invalidates all cases.

Section 1.11.- Forms.

The Commission shall establish the forms it deems necessary to conduct the proceedings pursuant to this Regulation, and shall inform the public via its website. Notwithstanding, the fact that the Commission has not adopted one or more forms, is in the process of reviewing them, or the Internet website is out of service, shall not release any party of its obligation to comply with the provisions stated herein, provide the information required by this Regulation or otherwise comply with any applicable Commission order.

Section 1.12.- Mode of Submission.

The forms, documents, and appearances required by virtue of this Regulation or any order of the Commission must be submitted before the Commission in electronic format according to the instructions which, from time to time, the Commission establishes through an order in relation to the electronic filing system.

If the electronic filing system is temporarily not operating or functioning, the forms, documents, and appearances required by virtue of this Regulation or by any order of the Commission shall be submitted before the Commission in accordance with any instructions that the Commission shall provide at that time through an order.

Section 1.13.- Effect of Submission.

In filing any document before the Commission, the party undersigning such document shall be deemed to have certified that the content of said document is true and that, according to the signer's best knowledge, information, and belief, formed after reasonable inquiry, the document is based on reliable and trustworthy facts, arguments, judicial sources, and information.

Section 1.14.- Confidential Information.

If in compliance with the provisions of this Regulation or any of the Commission's orders, a person has the duty to disclose information to the Commission considered to be privileged, pursuant to applicable evidentiary privileges, said person shall identify the alleged privileged information and request in writing for the Commission to treat such information as confidential, pursuant to Article 6.15 of Act 57-2014. In identifying privileged information and requesting confidential treatment by the Commission, the requesting party shall follow the rules and procedures established by the Commission in Resolution CEPR-MI-2016-0009, as such resolution may be amended from time to time, for the filing, handling and treatment of confidential information. Except in the case of information protected under the attorney-client privilege, the claim of confidential treatment shall, under no circumstances, be grounds for denying such information from being filed with the Commission.

Section 1.15.- Validity.

Pursuant to Section 2.8 of the LPAU, this Regulation shall enter into effect thirty (30) days after its submission to the Department of State and the Legislative Library of the Office of Legislative Services.

Section 1.16.- Penalties for Non-Compliance

Any Person who fails to comply with any of the requirements set forth in this Regulation may be subject to a Notice of Non-Compliance pursuant to Chapter IV of Regulation 8543² and may, as a result of such non-compliance, lose its status as a

² Regulation on Adjudicative, Notice of Noncompliance, Rate Review and Investigation Procedures.

registered Microgrid system or be subject to any other applicable administrative sanction or penalty deemed appropriate by the Commission.

Section 1.17.- Compliance with Other Applicable Legal Requirements

In developing a Microgrid System pursuant to this Regulation, the owner, operator and/or developer of such Microgrid system shall also ensure to fully comply with any and all applicable legal and regulatory requirements established and enforced by other relevant local, state and federal government entities. The granting of an authorization to operate as a registered Microgrid system under this Regulation shall not relieve a party from fully complying with other applicable legal and regulatory requirements enforced by any other government entity.

CHAPTER II - MICROGRID PROVISIONS

ARTICLE 2.- MICROGRID CATEGORIES

Section 2.01.- Microgrid Classification.

A. Microgrids shall be classified as on of the following:

1. Personal Microgrid.
2. Cooperative Microgrid.
3. Third-Party Microgrid.
4. Any other ownership or operational arrangement not contemplated herein may be submitted for Commission review, along with any supporting information the Commission may deem relevant.

B. Microgrids shall be subject to various requirements based on their classification, as follows:

1. Except as otherwise stated in Section 2.02 of this Regulation, there are no other requirements for Personal Microgrids under this Regulation.
2. The requirements for Cooperative Microgrids are described in Article 4 of this Regulation.
3. The requirements for Third Party Microgrids are described in Article 5 of this Regulation.
4. The requirements for Microgrids owned or developed by PREPA are outside the scope of this Regulation. PREPA proposed microgrids shall be addressed through applicable resource planning processes.
5. The requirements for systems of types not listed above are the same as those for Third Party Microgrids, except as determined by the

Commission under the exemptions process described in Article 7 of this Regulation.

Section 2.02.- Sale of Energy Services and other Grid Services.

- A. Except as otherwise provided in sub-section (C) of this Section, Personal Microgrids may provide Energy Services and/or other Grid Services to its Owner(s) or to PREPA.
- B. Except as otherwise provided in sub-section (C) of this Section, Cooperative Microgrids may provide Energy Services and/or other Grid Services to its Members or to PREPA.
- C. Personal Microgrids and Cooperative Microgrids may sale excess Energy Services and/or other Grid Services to Person(s) other than those listed in Subsections (A) and (B) of this Section, as applicable, subject to Commission authorization. In such cases, the Microgrid must submit, during its application or at any moment thereafter but before engaging in the sale of such Energy Services and/or other Grid Services, a detailed request to the Commission describing the proposed arrangement between the Microgrid and the Person(s). Such Microgrids must provide any information relevant to the proposed arrangement or that may be required by the Commission. The Commission shall issue a determination on the request within thirty (30) days of receipt.

ARTICLE 3.- MICROGRID TECHNICAL REQUIREMENTS

Section 3.01.- Microgrid Composition

A Microgrid shall consist, at a minimum, of generation assets, loads and Distribution Infrastructure. Microgrids shall include sufficient generation, storage assets and advanced distribution technologies³ to serve load under normal operating and usage conditions. If a Microgrid includes Meters, all members of each customer-class must be equipped with comparable metering technology.

Section 3.03.- Eligible Generation Resources

Microgrids may use either “renewable,” “combined heat-and-power,” or “hybrid,” generation resources, each described as follows:

- A. **“Renewable” Microgrids** – Renewable Microgrids have the following qualifications:

³ Advanced distribution technologies are equipment such as sensors, power conditioning equipment and other equipment suitable for regulation of voltage and/or frequency, control systems, communication systems, and automation technologies.

1. The primary energy source of the Microgrid must be one or more Renewable Resource(s) as defined in Section 1.08 of this Regulation.
2. For Renewable Resources to be the “Primary energy source”:
 - a. Seventy-five percent (75%) of the energy output of the system during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter must be from a Renewable Resource;⁴
 - b. The fuel used by non-renewable generation must be no more than 2,500 Btu per total energy provided by the microgrid⁵;
 - c. The non-renewable generation must operate at a heat rate of no more than 13,000 Btu/kWh at full output; and
 - d. The sum of installed renewable energy generating capacity and electrical energy storage capacity (in MW) of the Microgrid shall exceed the expected peak demand of the Microgrid.
3. Except as otherwise provide herein, use of fossil fuel by a Microgrid may not, in the aggregate, exceed twenty-five percent (25%) of the total energy output of the system during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter.
4. Use of fossil fuel by a Microgrid is limited to those purposes identified in 18 C.F.R. §292.204(b)(2) or to operate the Microgrid during periods when the Renewable Resources are unavailable.⁶
5. A Renewable Microgrid Operator may apply for an exemption, under Article 7 of this Regulation, of the twenty-five percent (25%) limit on

⁴ For microgrid delivering power as alternating current output will be measured at the alternating current terminals of the generator, after any inverter converting direct current power to alternating current. For microgrids delivering power as direct current, output will be measured at the direct current terminals of the generator, after any inverter converting alternating current power to direct current.

⁵ As an example, this standard may be met by a generator operating at 10,000 Btu/kWh, providing 25% of the Microgrid electric energy.

⁶ Use of oil, natural gas and coal by a Microgrid, under Section 3(17)(B) of the Federal Power Act, is limited to the minimum amounts of fuel required for ignition, startup, testing, flame stabilization, and control uses, and the minimum amounts of fuel required to alleviate or prevent unanticipated equipment outages, and emergencies, directly affecting the public health, safety, or welfare, which would result from electric power outages.

energy output from fossil fuels due to electrical equipment damage from *force majeure* events.

- B. **“Combined heat-and-power” (CHP) Microgrids** – CHP Microgrids must meet the following requirements during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter:⁷
1. The useful thermal energy output of the system is no less than fifty percent (50%) of the total energy output.
 2. The fuel input, minus the useful thermal energy output, is no more than 7,000 Btu per kWh of generator output.
- C. **Hybrid Microgrids** – In order to be considered as a “Hybrid”, a Microgrid must comply with the following:
1. The renewable portion of its generation capacity must meet the requirements of Renewable Microgrids established in Subsection A of this Section; and
 2. The combined heat-and-power portion of its generation capacity must meet the requirements of CHP Microgrids established in Subsection B of this Section.
 3. Any application for a Hybrid Microgrid under this Regulation shall explain how the renewable, CHP and any storage and backup capacity will operate and comply with the requirements described in this Section.

Section 3.04.- Forms of Demonstrating Compliance

- A. Renewable Microgrids must demonstrate compliance with the qualifications in Section 3.03(A) of this Regulation. The following three alternatives for demonstrating compliance are acceptable. Applicants shall select the preferred alternative and identify such in the application for registration.
1. Operational Plan.

Include an operational plan describing the type of generation assets on the Microgrid and how they will be used to meet anticipated demands and, for each year thereafter, submit an annual operational report detailing fuel usage and demonstrating compliance with the qualification in Section 3.03(A) of this Regulation.

⁷ Appendix B of this Regulation contains several examples on how to meet these requirements.

2. Oil- and gas-fired generators.

Renewable Microgrid with generating assets limited to solar photovoltaics and oil- or natural gas-fired generators shall be assumed to comply with these requirements if it consumes less than a monthly fossil fuel limit, as calculated using the template provided in Appendix A of this Regulation and submitted along with its application. Microgrids shall maintain monthly records of fuel consumption, and submit an annual fuel consumption report for each year the Microgrid is in operation.

3. Diesel-fired generators.

Any Renewable Microgrid with generating assets limited to solar photovoltaics and diesel-fired generators shall be assumed to comply with these requirements if it consumes less than 3.5 gallons of diesel fuel per month per kilowatt of photovoltaic capacity. Microgrids shall maintain monthly records of fuel consumption, and submit an annual fuel consumption report for each year the Microgrid is in operation.

B. CHP Microgrids must demonstrate compliance with the qualifications in Section 3.03(B) of this Regulation, as follows.

1. Applications for CHP Microgrids shall include a description of the generation and heat-recovery equipment to be installed and the use of the thermal energy, as well as a heat flow plan showing the fuel input, electric generation and useful thermal energy output and consumption for typical operating conditions. Where more than one generator is to serve the Microgrid, the application shall describe all the generation assets and how they will be dispatched to meet anticipated electric and thermal demands.
2. Microgrids shall be required to submit annual operational reports detailing fuel usage, electric generation, and thermal energy consumption, demonstrating compliance with the qualification in Section 3.03(B) of this Regulation.

C. Hybrid Microgrids shall submit separate demonstrations of compliance for both the renewable portion and the CHP portion of the Microgrid.

Section 3.05.- Codes and Standards

Microgrids shall comply with the applicable codes and standards identified by the Commission through resolution and/or order. The Commission may, from time to time, review and, when necessary, modify and update, the codes and standards that shall apply to Microgrids under this Regulation.

Section 3.06.- Interconnection with PREPA's System

Microgrids may interconnect with the Electric Power Grid in accordance with applicable regulations or procedures adopted by PREPA, its successor or the operator of the Electric Power Grid.

ARTICLE 4.- REQUIREMENTS FOR COOPERATIVE MICROGRIDS

Section 4.01.- Ownership Restriction

No single Member of a Cooperative Microgrid may possess or control more than thirty-five percent (35%) ownership stake.

Section 4.02.- Size of Cooperative Microgrids

Cooperative Microgrids shall be classified based on size according to the following:

1. Small Cooperative Microgrids are those with a total generating capacity of 250 kW or less; and
2. Large Cooperative Microgrids are those with a generating capacity exceeding 250 kW.

Section 4.03.- Application and Registration

Any Person interested in developing a Cooperative Microgrid must submit an application for registration as described in Article 6 of this Regulation. This application shall contain at least the following information:

A. Contact information:

1. The application must provide the following contact information:
 - a. Name of the Microgrid Owner.
 - b. Name of the primary contact (Cooperative Microgrids must designate at least one Cooperative Member as the primary contact).
 - c. Mailing address
 - d. E-mail address; and
 - e. Phone number.
2. Name and contact information (as described above) of the Microgrid Operator, if such Person is different from the Person identified as the Microgrid Owner.

B. Operational structure: The application shall identify the proposed Microgrid as a Small or Large Cooperative, as applicable.

- C. Location: The application must identify the Municipality (or Municipalities) in which the Microgrid is located, and a map showing the geographical boundaries of the proposed Microgrid.
- D. Number of Members: The application shall identify the number and type of Cooperative Members that will be served by the Microgrid, such as, but not limited to:
 - 1. Public housing buildings and households,
 - 2. Other multi-family buildings and households,
 - 3. Other single-family households,
 - 4. Critical facilities (e.g. hospitals, other medical facilities, water- and waste-water-treatment facilities, police stations and fire stations)
 - 5. Irrigation customers,
 - 6. Retail stores, and
 - 7. Other commercial and industrial buildings.
- E. Type of Generation: The application must identify the type of generation proposed for the Microgrid, as provided in Section 3.03 of this Regulation, and the form for demonstrating compliance therewith, as provided in Section 3.04 of this Regulation.
- F. System resources: The application must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the Microgrid.
- G. Equipment vendor: The application shall include the name and contact information for the primary vendor(s) or installer(s) of the Microgrid.
- H. Certification of Design: Prior to construction, the application shall include a certification of the Microgrid design signed and stamped by licensed engineer.

Section 4.04.- Rate for Service

- A. The cost-per-share shall be determined by the Members of the Cooperative Microgrid.
- B. Cooperative Microgrids may collect deposits at the discretion of its Members. Deposit amounts shall be fair, just, and reasonable, and shall not discriminate against any individual Cooperative Members.
- C. Rates for Service may be based on consumption, peak load, or another metric at the discretion of the Members of the Cooperative, provided such rates are

fair, just, and reasonable, and not discriminatory against any individual Members of the Cooperative.

Section 4.05.- Additional Requirements Applicable to Large Cooperatives

Large Cooperatives shall also comply with the following reporting requirements. Small Cooperatives are not required to provide the information described herein.

- A. Large Cooperatives shall submit an annual report on fuel usage, generation, and sales to the Commission. This report shall include:
 - 1. Electric generation by resource type;
 - 2. For CHP microgrids, useful thermal output by resource type;
 - 3. Fuel use by resource type;
 - 4. Capacity factor by month and year;
 - 5. Total electricity production (in kWh);
 - 6. Any change in the number of Members, including additions and departures of Members; and
 - 7. Any other information that the Commission may require.
- B. Large Cooperatives must maintain and submit to the Commission copies of any reports required by the US EPA and the Puerto Rico Environmental Quality Board.

ARTICLE 5.- REQUIREMENTS FOR THIRD-PARTY MICROGRIDS

Section 5.01.- Ownership and Sales Restrictions

Third-Party Microgrids may sell Energy Services and/or other Grid Services to Customers who are directly connected to the Microgrid system as well as to PREPA, subject to the non-discrimination requirements in Section 5.10 of this Regulation.

Section 5.02.- Certification

In addition to complying with the requirements set forth in this Regulation, any Microgrid Operator considered an Electric Service Company, as such term is defined in Section 1.08(A)(5) of Regulation 8701,⁸ shall comply with any and all applicable requirements set forth in Regulation 8701.

For the purposes of this Regulation, a Microgrid Operator overseeing the operation of a Third-Party Microgrid, or a group of Third-Party Microgrids, with an aggregate generating capacity of one megawatt (1 MW) or more will be considered an Electric

⁸ Amendment to Regulation No. 8618 on Certification, Annual Fees, and Operational Plans for Electric Service Companies in Puerto Rico.

Service Company. In such cases, the Microgrid Operator shall comply with the requirements of Section 3.07(A)(1)(a), 3.07(A)(2) and Article IV of Regulation 8701.

Section 5.03.- Registration

Any Person interested in owning and/or operating a Third-Party Microgrid must submit an application for registration as described in Article 6 of this Regulation. This application must contain at least the following information:

A. Contact information:

1. The application must provide the following contact information:

- a. Name of Microgrid Owner;
- b. Mailing address;
- c. E-mail address; and
- d. Phone number.

2. The application shall identify the name of the Person that will serve as Microgrid Operator and the contact information described in items (b), (c) and (d) above, if different from that of the Microgrid Owner.

B. Operational structure: The application shall identify the proposed Microgrid as a Third-Party Microgrid.

C. Location: The application must identify the Municipality (or Municipalities) in which the Microgrid is located, and a map showing the geographical boundaries of the proposed Microgrid.

D. Number of customers: The application must include the total expected number of Customers to be served by the Microgrid.

E. Type of Generation: The application must identify the type of generation proposed for the Microgrid, as provided in Section 3.03 of this Regulation, and the form for demonstrating compliance therewith, as provided in Section 3.04 of this Regulation.

F. System resources: The application must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the Microgrid.

G. Equipment vendor: The application shall include the name and contact information for the primary vendor(s) or installer(s) of the Microgrid.

H. Certification of Design: Prior to construction, the application shall include a certification of the Microgrid design signed and stamped by licensed engineer.

- I. Sample documents: The application shall include the following:
 - 1. A model contract for Commission review and approval, in accordance with Section 5.09 of this Regulation.
 - 2. A sample bill for Commission review and approval.
 - 3. Any prospective changes to the model contract or the bill format submitted along with the application must be approved by the Commission prior to their implementation.
- J. Billing model:
 - 1. Third-party Microgrids shall bill their customers on a per-kWh basis.
 - 2. Microgrids unable to bill on a per-kWh basis may request authorization from the Commission for an alternative payment structure. Such request shall explain the reasons why the use of a per-kWh billing method is preferable, as well as the preferred alternative payment structure and the calculations supporting that structure, as described in Section 5.04(D) of this Regulation.
- K. Proposed rate structure, as described in Section 5.04 of this Regulation

Section 5.04.- Rate Structure

- A. Microgrid Operators must charge uniform rates across all Customers of the same customer-class of a single Microgrid system. Within a customer-class, charges may be structured in any non-discriminatory manner, including but not limited to energy rates varying by usage block, time of use, season, system load and condition.
- B. The rate at which energy and grid services are sold shall be project specific cost-based rates, supported by substantial documentation. It shall be computed as the expected annual costs divided by expected sales. The expected annual costs shall be calculated as follows:
 - 1. The projected investment in the microgrid system, net of tax credits, grants or subsidies, times a carrying charge, which shall be the levelized payment at a cost of capital over the life of the project (in years).
 - 2. Plus the annual operating costs of the system, including fuel, maintenance of generation, fees, regulatory charges, meter reading and billing.
- C. For non-metered Microgrids, Microgrid Operators may charge for Energy Services and Grid Services on an alternative basis (for example, per kilowatt

of installed or diversified load, or per month). In this case, Microgrid Operators must provide, along with their applications, calculations supporting this alternative charge, demonstrating that it does not exceed the maximum rate established in parts (B) and (C) of this section.

- D. Microgrid Operators shall submit, for Commission approval, a proposed rate structure, including all supporting documentation.

Section 5.05.- Deposits

Microgrid Operators may require payment of a reasonable deposit. Such deposit shall be uniform among Customer's of the same customer-class.

Section 5.06.- Billing

- A. Electric 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 Electric Bill which may be issued electronically or by mail.
- B. All Electric Bills must be drafted clearly and plainly so that they are easy to understand without requiring that readers possess any specialized knowledge for their comprehension and must include the contact information of the Commission and the Independent Consumer Protection Office.

Section 5.07.- Bill Objections and Suspension of Service

All Electric Bill objections and suspension of service procedures will be conducted in accordance with Regulation 8863, Regulation on the Procedure for Bill Review and Suspension of Electric Service, or any future regulation approved by the Commission to that effect.

Section 5.08.- Complaint Procedure

Microgrid Operators shall develop and publish a procedure for addressing any complaints, other than bill disputes, a Customer may have with regards to the Energy Services and/or other Grid Services provided to the Customer. The procedures shall clearly describe the process through which a Customer may file any complaint or grievance with the Microgrid Operator and the process through which the Microgrid Operator will address said complaint or grievance, including the time period within which such complaints or grievances will be addressed.

Any Customer dissatisfied with a determination made by the Microgrid Operator in relation to a complaint or grievance made pursuant to this Section may file a complaint with the Commission for review of such determination by the Microgrid Operator. Such complaint shall be filed pursuant to Regulation 8543.

Section 5.09.- Standard Contract

Microgrid Operators shall develop a standard form contract to be used for all Customers with the exception that rates may vary for each customer-class. The contract shall be written in plain language and shall include, but not be limited to:

1. The effective date of the contract;
2. The termination date of the contract;
3. All rates and charges for which the customer shall be charged, including, but not limited to, late payment fees and reconnection fees, as applicable;
4. The billing period;
5. The terms and conditions for the suspension of service to the Customer, including the requirements for reconnection;
6. An existing Customer's shall be authorized to transfer their rights and responsibilities under a Microgrid contract to a subsequent Customer.
7. Force majeure provisions
8. Terms and conditions by which the Microgrid Operator may have the right to enter the Customer's premises;
9. Provisions against the theft of power.
10. The name and contact information to whom Customers shall address any inquiries and complaints;
11. The procedure for addressing and resolving complaints or grievances, other than bill objections, as required by Section 5.08 of this Regulation.
12. Provisions for termination of the contract by either party in accordance with Section 5.11 of this Regulation;
13. A provision that if the contract is assigned, ceded or transferred, the same terms and conditions shall apply; and,
14. The contract shall be governed and construed in accordance with the laws and under the jurisdiction of the Commonwealth of Puerto Rico.

Section 5.10.- Non-Discrimination

- A. Microgrid Operators covered under Article 5 of this Regulation are prohibited from unduly discriminating against individual Person in the immediate vicinity of a Microgrid if such Persons wishes to receive service from the Microgrid.

B. In order to demonstrate non-discrimination:

1. Microgrid Operators must submit a map of the proposed Microgrid boundaries showing the loads to be interconnected to the Microgrid.
2. The Commission at its discretion may review the maps and determine whether or not the proposed Microgrid boundaries constitute discrimination.

C. Microgrid Operators may request reconsideration of a Commission determination of discrimination, in which case they shall demonstrate either of the following:

1. That based on cost, it is not feasible to connect the Persons who have been excluded. In this case, the Microgrid Operators shall be required to submit a calculation showing that providing service to a specific Person would exceed the average cost of providing service to other Customers of the same customer-class such that the average rate charged to the excluded Person would not permit the Microgrid Operators to recover its costs plus a reasonable return, if applicable.
2. That it is technically not feasible to connect the Person. In this case, the Microgrid Operators shall be required to submit an affidavit signed by a licensed engineer describing the technical barriers that prevent delivery of service to a specific customer.

Section 5.11.- Contract Length and Exit Requirements

A. The length of the contract shall be sufficient to allow the Microgrid Operator to recover its costs plus a reasonable return, but in no event, shall the contract term exceed twenty (20) years if a residential customer is one of the contracting parties.

B. Microgrid Operators may terminate operation and/or remove equipment upon receiving permission from the Commission.

C. Termination of service:

1. All contracts shall contain language in which each party agrees that either party can seek a termination of service.
2. Termination of service may be triggered by either a Microgrid Operator or a Customer.
3. A notice period of no less than thirty (30) calendar days shall be given by the terminating party to the other party before terminating a contract. The contract shall specify the circumstances under which either party may be entitled to terminate a contract. Notice of

termination shall be made in writing and delivered by email or regular postal service.

4. Microgrid Operators may charge a reasonable exit fee for termination of service on metered and non-metered Microgrids during the first five (5) years of the contract period, provided, however, that in cases in which a Customer transfer a contract obligation to another Customer, whom shall henceforth use the service provided to the property, the transferring Customer shall not be required to pay an exit fee.
5. In the event a Microgrid Operator, for whatever reasons, is unable to continue providing service to its Customers, such Microgrid Operator shall exercise due diligence to find a new operator who shall assume responsibility to provide service to the Customers under similar terms of service. Should the Microgrid Operator be unable to secure a new operator, such Microgrid Operator shall work with PREPA to ensure that the Microgrid's Customers continue to receive uninterrupted electrical service once the Microgrid ceases providing service. Alternatively, a Microgrid Operator may offer its Customer the option of assuming ownership of the Microgrid, in which case, should the Customers accept, shall apply to the Commission to register and convert the Microgrid into a Cooperative Microgrid.
6. In lieu of the above, a Microgrid Operator may provide additional service guarantees, such as, but not limited to, performance bonds, provided such guarantees ensure Customers will continue to receive uninterrupted electrical service in the event of a default by the Microgrid Operator.

Section 5.12.- Reporting

- A. Microgrid Operators shall be required to submit an annual report on fuel usage, generation, and sales to the Commission. This report shall include:
 1. Electric generation by resource type;
 2. Thermal generation by resource type, for CHP Microgrids;
 3. Fuel use by resource type;
 4. Capacity factor by month and year;
 5. Total sales;
 6. Any change in the number of Customers, including additions and departures of Customers; and
 7. Any other information that the Commission may require.

- B. Microgrid Operators must maintain and submit to the Commission copies of any reports required by the US EPA and the Puerto Rico Environmental Quality Board.

Section 5.13.- Rate Review

- A. Any Operator or Customer of a Third-party Microgrid may petition the Commission to conduct a rate review for the service provided by the Third-party 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 Commission approves their application for registration.
 - 2. Petitions for rate review may be brought by either Customers or Microgrid Operators.
 - 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 Microgrid Operator.
 - b. Microgrid Operators may petition for rate review on the basis of unjust or unreasonable rates or on the basis of insufficient cost recovery.

CHAPTER III PROCEDURES

ARTICLE 6.- REGISTRATION PROCESS

Section 6.01.- Registration Form

- A. Any person interested in developing a Microgrid must complete a registration form, as applicable, for the classification of their Microgrid.
- B. Registration forms will be available at the Commission website, and will include at a minimum the information set forth in Sections 4.03 and 5.03 of this Regulation, as applicable. Applicants must submit this form to the Commission in electronic or paper format.
- C. If the registration form is not available, applicants may provide the information required for the relevant Microgrid type to the Commission in a paper or electronic format of their choice.

Section 6.02.- Commission Review

- A. The Commission shall review all applications for completeness and compliance with this Regulation, pursuant to the provisions of LPAU.

- B. The Commission shall issue a determination on each application within thirty (30) days of receipt:
 - 1. Granting the Microgrid status as a Registered Microgrid, subject to compliance with Section 6.03 of this Regulation;
 - 2. Requiring additional information and/or specific revisions; or
 - 3. Denying registration of the Microgrid.
- C. The Commission may issue a determination of denial of any application on the basis of Microgrid location, cost, composition, or other considerations.
- D. **Ongoing duty to notify.** If, at any point prior to or after a Commission determination has been made pursuant to this Section, any of the information provided by a Microgrid owner and/or operator as part of an application for registration changes or is expected to change, the Microgrid owner and/or operator shall have the responsibility of notifying the Commission of such change no later than ten (10) days from the date the change takes place. Failure to promptly update and notify the Commission of any such changes may result in a Notice of Non-Compliance, pursuant to Section 1.16 of this Regulation.

Section 6.03.- Compliance Certifications

- A. After a Microgrid has been fully constructed, but prior to beginning operation, the Microgrid owner and/or developer shall file with the Commission the following:
 - 1. A written certification signed by a licensed engineer indicating that the Microgrid, as built, complies with all regulations including, but not limited to, regulations of the U.S. EPA, all codes and standards as ordered by the Commission under Section 3.05 of this Regulation, and local siting regulations and ordinances.
 - 2. A certification of the Microgrid 'as built' design signed and stamped by a licensed engineer.
 - 3. A certification of inspection signed by a licensed engineer or licensed electrician, when authorized by law to do so.
- B. The filing of the documents and information required in Sub-section (A) of this Section shall constitute authorization to the Microgrid owner and/or operator to begin operation of the Microgrid.
- C. The Commission may review the information provided and may require the Microgrid owner and/or operator any additional information the Commission determines necessary or convenient. In the event of non-compliance or if the

Commission determines, from the information provided, that the Microgrid fails to comply with any of the requirements set forth in this Regulation, the Commission may, at its discretion, take any appropriate action necessary to ensure the safety and reliability of the service provided to the microgrids Members or Customers.

Section 6.04.- Filing Fee

- A. Except for Microgrids covered under Section 5.02 of this Regulation, any application for registration of a Microgrid system shall include payment of a filing fee as follows:
 - 1. Small Cooperative Microgrids: \$50.00
 - 2. Large Cooperative Microgrids
and Third-Party Microgrids: \$100.00
- B. Microgrids covered under Section 5.02 of this Regulation shall be exempt from payment under this Section. Proof of payment of the applicable fees under Regulation 8701 shall be provided in order to claim the exemption from payment established herein.

ARTICLE 7.- EXEMPTIONS

Any Microgrid Operator may file a request for exemption or modification of any of the requirements under this Regulation. Any request for exemption shall describe the provision from which the applicant seeks exemption or for which the applicant requests a modification and shall include a clear justification of the applicant's request. This opportunity to file for an exemption may occur at the time of seeking approval or at a later date such as when the Microgrid is already in operation due to a change in circumstances. In ruling on such motions, the Commission shall consider the reasonableness of the request; the cost impact on the project and the Members or Customers of the Microgrid project including the prudence of incurred or anticipated costs, if applicable; whether the exemption is supported by the Members or Customers or potential Members or Customers of the Microgrid; whether the exemption is in the public interest and any other relevant factors pertaining to the requested waiver.

ARTICLE 8.- RECONSIDERATION AND JUDICIAL REVIEW

Section 8.01.- Request for Reconsideration

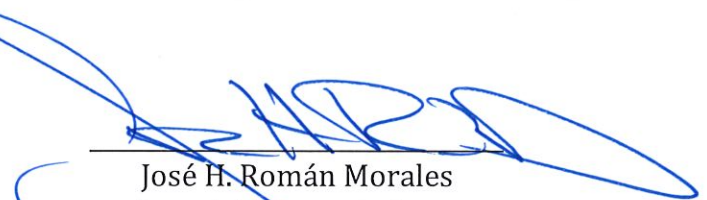
Any person that is not satisfied with a decision made by the Commission under this Regulation may file, within the term of twenty (20) days from the date copy of the notice of such decision is filed by the Commission's Clerk, a request for reconsideration before the Commission wherein the petitioner sets forth in detail the

grounds that support the request and the decisions that, in the opinion of the petitioner, the Commission should reconsider.

Section 8.02.- Judicial Review

Any person dissatisfied with a final decision of the Commission under this Regulation may, within thirty (30) days from the date copy of notice of a final decision addressing a request for reconsideration is filed by the Commission's Clerk, or within thirty (30) days from the date copy of the notice of a Commission final decision is filed by the Commission's Clerk, if a request for reconsideration has not been filed, appear before the Court of Appeals of the Commonwealth of Puerto Rico by way of writ of judicial review, pursuant to Section 4.2 of LPAU and the applicable Rules of the Court of Appeals.

Agreed upon by the Puerto Rico Energy Commission, in San Juan, Puerto Rico, on May 16, 2018.


Ángel R. Rivera de la Cruz
Associate Commissioner
José H. Román Morales
Associate Commissioner
Interim Chairman

Appendix A

Fuel Limit Calculator

Note: tabs highlighted in yellow require users to input values that are specific to their proposed systems.

Allowable Fuel (AC). See below for Allowable Fuel (DC) Calculator.

Input	Units	Value	Source/Notes
Fuel Type			[A]; User input
PV Capacity on System	kW (AC)		[B]; User input
PV AC Capacity Factor	%		[C]; User input
Hours per Year	Hours	8760	[D]
Annual PV Generation	kWh		[E] = [B] * [C] * [D]
Minimum generation from PV	%	75%	[F]; Limit
Allowable Generation from Fuel	kWh/year		[G] = [E] * ((1/[F])-1)
Heat Rate of Generator	BTU/kWh		[H]; User input
Allowable Fuel Energy	MMBTU/year		[I] = [G]*[H]/1,000,000
Fuel Heat Content	MMBTU/gal or MMBTU/cubic foot		[J]; See Conversions table
Allowable Fuel	Gal/year or Cubic foot/year		[K] = [I] / [J]
Months per Year	Months	12	[L]
Allowable Fuel	Gal/month or Cubic foot/month		[M] = [K] / [L]
Liters per Gallon	Liters/gal	3.79	[N]; Conversion factor
Allowable Fuel	Liter/(month*kW PV)		[O] = [M] * [N] (Note: not applicable for natural gas calculations)

Allowable Fuel (DC)

Input	Units	Value	Source/Notes
Fuel Type			$[A]'$; User input
PV Capacity on System	kW (AC)		$[B]'$; User input
PV AC Capacity Factor	%		$[C]'$; User input
Hours per Year	Hours	8760	$[D]'$
DC-to-AC Ratio		1.15	$[E]'$
Annual PV Generation	kWh		$[F]' = [B]' * [C]' * [D]' * [E]'$
Minimum generation from PV	%	75%	$[G]'$; Limit
Allowable Generation from Fuel	kWh/year		$[H]' = [F]' * ((1/[G]') - 1)$
Heat Rate of Generator	BTU/kWh		$[I]'$; User input
Allowable Fuel Energy	MMBTU/year		$[J]' = [H]' * [I]' / 1,000,000$
Fuel Heat Content	MMBTU/gal or MMBTU/cubic foot		$[K]'$; See Conversions table
Allowable Fuel	Gal/year or Cubic foot/year		$[L]' = [J]' / [K]'$
Months per Year	Months	12	$[M]'$
Allowable Fuel	Gal/month or Cubic foot/month		$[N]' = [L]' / [M]'$
Liters per Gallon	Liters/gal	3.79	$[O]'$; Conversion factor
Allowable Fuel	Liter/(month*kW PV)		$[P]' = [N]' * [O]'$ (Note: not applicable for natural gas calculations)

Conversion Factors Table

Fuel Type	Heat Content	Unit
Diesel	0.138	MMBTU/gal
Natural Gas	0.001	MMBTU/cubic foot
Residual Fuel Oil	0.150	MMBTU/gal
Kerosene	0.135	MMBTU/gal

Source: <https://www.eia.gov/outlooks/aeo/pdf/appg.pdf>

Appendix B

Section 3.03(B) of this Regulation establishes that CHP Microgrids must meet the following requirements during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter:

1. The useful thermal energy output of the system is no less than fifty percent (50%) of the total energy output.
2. The fuel input, minus the useful thermal energy output, is no more than 7,000 Btu per kWh of generator output.

The following table contains four different examples of hypothetical CHP systems. For illustration purposes, each system has a Fuel Input of 1,000 MMBtu.

CHP Unit	Fuel Input (MMBtu)	Useful Thermal Output (MMBtu)	Useful Thermal Output (%)	Net Input (MMBtu)	Net Electric Output (MWh)	Heat Rate (Btu/kWh)	CHP Useful Thermal Output > 50% Input?	Efficiency CHP HR < 7,000 Btu/kWh?
	[1]	[2]	$\frac{[2]}{[1]} \times 100$	$\frac{[3]}{[1] - [2]}$	[4]	$\frac{[3]}{[4]} \times 1,000$		
1	1,000	700	70%	300	60	5,000	Yes	Yes
2	1,000	100	10%	900	150	6,000	No	Yes
3	1,000	700	70%	300	40	7,500	Yes	No
4	1,000	350	35%	650	70	9,286	No	No

In the previous example, CHP Systems #1 and #3 met the first requirement (useful thermal energy output of the system is no less than fifty percent (50%) of the total energy output) and CHP Systems #1 and #2 met the second requirement (fuel input, minus the useful thermal energy output, is no more than 7,000 Btu per kWh of generator output). Therefore, CHP System #1 met both requirements.



REGULATION ON MICROGRID DEVELOPMENT

(ATTACHMENT B – REDLINE COMPARISSON)

TABLE OF CONTENTS

CHAPTER I - GENERAL PROVISIONS.....	4
ARTICLE 1.- GENERAL PROVISIONS	4
Section 1.01.- Title.....	4
Section 1.02.- Legal Basis.....	4
Section 1.03.- Purpose and Executive Summary.	4
Section 1.04.- Applicability.	5
Section 1.05.- Interpretation.....	5
Section 1.06.- Provisions of Other Regulations.	5
Section 1.07.- Unforeseen Proceedings.....	5
Section 1.08.- Definitions.....	5
Section 1.09.- Controlling Version.....	9
Section 1.10.- Severability.....	9
Section 1.11.- Forms.....	9
Section 1.12.- Mode of Submission	10
Section 1.13.- Effect of Submission.....	10
Section 1.14.- Confidential Information.....	10
Section 1.15.- Validity.....	10
Section 1.16.- Penalties for Non-Compliance	10
Section 1.17.- Compliance with Other Applicable Legal Requirements	11
CHAPTER II - MICROGRID PROVISIONS.....	11
ARTICLE 2.- MICROGRID CATEGORIES	11
Section 2.01.- Microgrid Classification.....	11
Section 2.02.- Sale of Energy Services and other Grid Services.	12
ARTICLE 3.- MICROGRID TECHNICAL REQUIREMENTS.....	12
Section 3.01.- Microgrid Composition.....	12
Section 3.03.- Eligible Generation Resources.....	12
Section 3.04.- Forms of Demonstrating Compliance	14
Section 3.05.- Codes and Standards.....	15
Section 3.06.- Interconnection with PREPA's System.....	16
ARTICLE 4.- REQUIREMENTS FOR COOPERATIVE MICROGRIDS	16
Section 4.01.- Ownership Restriction.....	16
Section 4.02.- Size of Cooperative Microgrids.....	16
Section 4.03.- Application and Registration.....	16
Section 4.04.- Rate for Service.....	17
Section 4.05.- Additional Requirements Applicable to Large Cooperatives.....	18
ARTICLE 5.- REQUIREMENTS FOR THIRD-PARTY MICROGRIDS.....	18
Section 5.01.- Ownership and Sales Restrictions	18
Section 5.02.- Certification	18
Section 5.03.- Registration.....	19
Section 5.04.- Rate Structure.....	20
Section 5.05.- Deposits.....	21
Section 5.06.- Billing.....	21
Section 5.07.- Bill Objections and Suspension of Service	21

Section 5.08.- Complaint Procedure.....	21
Section 5.09.- Standard Contract	22
Section 5.10.- Non-Discrimination.....	22
Section 5.11.- Contract Length and Exit Requirements	23
Section 5.12.- Reporting.....	24
Section 5.13.- Rate Review.....	25
CHAPTER III PROCEDURES	25
ARTICLE 6.- REGISTRATION PROCESS	25
Section 6.01.- Registration Form	25
Section 6.02.- Commission Review	25
Section 6.03.- Compliance Certifications	26
Section 6.04.- Filing Fee.....	27
ARTICLE 7.- EXEMPTIONS	27
ARTICLE 8.- RECONSIDERATION AND JUDICIAL REVIEW	27
Section 8.01.- Request for Reconsideration	27
Section 8.02.- Judicial Review.....	28

REGULATION ON MICROGRID DEVELOPMENT

CHAPTER I - GENERAL PROVISIONS

ARTICLE 1.- GENERAL PROVISIONS

Section 1.01.- Title.

This Regulation shall be known as the Regulation on Microgrid Development of the Puerto Rico Energy Commission.

Section 1.02.- Legal Basis.

This Regulation is adopted pursuant to Act 57-2014, as amended, known as the Puerto Rico Energy Transformation and RELIEF Act; Act 82-2010, as amended, known as the Public Policy on Energy Diversification by Means of Sustainable and Alternative Renewable Energy in Puerto Rico Act; Act 83-2010, known as the Green Energy Incentives Act; and Act 38-2017, known as the Uniform Administrative Procedure Act of the Government of Puerto Rico ("LPAU", for its Spanish acronym).

Section 1.03.- Purpose and Executive Summary.

The Puerto Rico Energy Commission ("Commission") adopts and enacts this Regulation to assist in the development of Microgrids throughout Puerto Rico. The prolonged outages and its impacts on the citizens of Puerto Rico caused by Hurricanes Irma and Maria highlights the need to foster the creation of Microgrids as a means of delivering reliable energy services to customers in need, avoiding the loss of power at critical facilities, promoting customer choice, reducing carbon pollution and spurring economic development while integrating new technology and industry trends into Puerto Rico's energy market. Accordingly, Microgrids and other distributed generation resources are a key component of the Government of Puerto Rico's strategy for rebuilding and strengthening Puerto Rico's electric power system.¹

The Commission seeks to harness the potential of decentralized energy resources including those identified as sustainable renewable or alternative renewable energy resources, as defined by Act 82-2010; combined heat-and-power; and other distributed resources, to strengthen the resiliency of the electric grid, empower customers, and increase reliance on renewable and highly-efficient resources across the Commonwealth. One statutory goal of microgrids is to reduce energy consumption based on fossil fuels through local renewable energy generation.

Because Microgrids can operate in an "islanded" mode, disconnected from the electric grid, they are able to independently provide electric service during grid outage

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¹ See Request for Federal Assistance for Disaster Recovery, Build Back Better Puerto Rico, November 2017 at pp. 15-19.

periods or interruptions. Microgrids can contribute to rapid restoration of service, as there are areas where power could be restored quicker by the deployment of Microgrids rather than waiting reconnection to the grid at large.

Deleted: (for example, the prolonged outage across the Commonwealth in the aftermath of Hurricanes Irma and Maria).

With this Regulation, the Commission intends to provide a stable and predictable regulatory framework, capable of fostering innovation and economic growth through continued investments in the development and deployment of Microgrid systems.

Section 1.04.- Applicability.

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This Regulation shall apply to the registration, development and operation of Microgrids that serve end-use customers.

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Deleted: contract terms, incorporation of preexisting utility equipment,

Deleted: rates for proposed microgrids

Section 1.05.- Interpretation.

This Regulation shall be interpreted in a way that promotes the highest public good and the protection of the interests of the residents of Puerto Rico, and in such a way that the deployment of Microgrids are carried out rapidly, justly, and economically.

Deleted: proceedings

Section 1.06.- Provisions of Other Regulations.

This Regulation may be supplemented by the provisions of other regulations of the Puerto Rico Energy Commission that are compatible with the provisions of this Regulation.

Section 1.07.- Unforeseen Proceedings.

When a specific proceeding has not been planned for in this Regulation, the Commission may attend to it in any way that is consistent with Act 57-2014.

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Section 1.08.- Definitions.

A. These definitions are to be used for this Regulation and are not intended to modify the definitions used in any other Commission regulation or order.

Deleted: regulations

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B. For the purposes of this Regulation, the following terms will have the meaning established below, except when the context of the content of any provision clearly indicates something else:

1. "Alternative Renewable Energy Resources" refers to the energy sources listed in Section 1.4(13) of Act 82-2010, specifically:

Deleted: " means that

Deleted: produced or generated from the following resources, as defined

- i. Conversion of municipal solid waste;
- ii. Landfill gas combustion;
- iii. Anaerobic digestion;
- iv. Fuel cells; and

- v. Any other energy that the Commonwealth Energy Public Policy Office may define in the future through regulations as alternative renewable energy.
2. ~~“Combined heat-and-power” (CHP)~~ means equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the ~~integrated~~ use of ~~technology~~.
 3. “Commission” means the ~~Puerto Rico Energy Commission~~.
 4. “Cooperative ~~Member~~” or “~~Member~~” means a ~~Person who, along with two or more Persons, share ownership interest in a Cooperative Microgrid and receive Energy Services and/or other Grid Services from the Cooperative.~~
 5. ~~“Cooperative Microgrid” means the joint-ownership of a Microgrid by three or more Cooperative Members through formal or informal organization or association. For purposes of this Regulation, a Cooperative may, but need not be, organized or operated pursuant to Act 164-2009, as amended, known as the Puerto Rico General Corporations Act or Act 239-2004, as amended, known as the General Cooperative Associations Act. The primary purpose of a Cooperative Microgrid is to supply Energy Services or Grid Services to its Cooperative Members.~~
 6. “Customer” means any ~~Person, as such term is defined herein,~~ who consumes or uses electric power or energy services ~~from a Third-Party Microgrid.~~
 7. “Distributed ~~Energy Resources~~” means ~~Distributed Generation~~ or ~~electric energy storage~~.
 8. ~~“Distributed Generation” means~~ an electric power generation facility in Puerto Rico connected to the ~~Distribution Infrastructure, or to a Microgrid and/or producing power for self-supply or sale.~~
 9. “Distribution ~~Infrastructure~~” means the physical equipment used to distribute electric power at voltages below 38,000 volts, including but not limited to poles, primary lines, secondary lines, service drops, ~~transformers and Meters.~~
 10. “Distributed Renewable Energy” means ~~Distributed Generation~~ powered by ~~Renewable Resources which generates~~ electric power for self-consumption, ~~sale to third-parties, or to supply an Electric Service Company.~~

Deleted: <#>“Ancillary services” mean the services necessary to support the delivery of electric power from generator to consumer while maintaining reliable operation of an interconnected transmission and distribution system. ¶
<#>

Deleted: <#>sequential

Deleted: <#>energy

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Deleted: “ created by virtue of Act 57-2014

Deleted: non-profit entity consisting of a group of customers

Deleted: of a microgrid system. ¶
“Community Solar” a voluntary program whereby a solar-electric system provides power

Deleted: /or financial benefit to multiple community members in which community members may or may not own

Deleted: system itself.

Deleted: natural person or legal entity

Deleted: Generator

Deleted: any natural person

Deleted: legal entity that owns

Deleted: distribution system or to a microgrid. ¶
“

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Deleted: Generator

Deleted: sustainable renewable energy or alternative renewable energy supplying

Deleted: to an electric power service company or generated

Deleted: or for

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“

Deleted: Power Distribution” or “Distribution” means the delivery of electric power from any electric substation or generator to any customer or consumer at voltages below 38,000 volts through Distribution Infrastructure throughout the Commonwealth.

11. "Electric Bill" means the document sent periodically by the Electric Service Company to a Customer listing all the components, charges, or rates that make up the final consumption cost each Customer must pay.
12. "Electric Power Distribution" or "Distribution" means the delivery of electric power from any electric substation or generator to any Customer through Distribution Infrastructure.
13. "Electric Power Grid" means the electric power transmission and Distribution Infrastructure of the Commonwealth of Puerto Rico.
14. "Energy Service" means electricity service provided to a Customer in Puerto Rico by an Electric Service Company.
15. "Electric Service Company" means any Person engaged in the generation, transmission, distribution, billing, or resale of electric power.
16. "Energy Storage" means any resource located in the Microgrid that is capable of receiving electric energy from the Electric Power Grid or any other generation resource, for later injection of electricity back to the Electric Power Grid or to serve any load.
17. "Grid Services" include ancillary services, demand response and other services supporting Distribution Infrastructure and/or Electric Power Distribution.
18. "Interconnection" means the connection of Distributed Energy Resources to Distribution Infrastructure.
19. "Meter" means the equipment used to measure consumption and/or generation of energy at the point of connection between an individual Customer or Cooperative Member and a Microgrid or Distribution Infrastructure, as well as associated communications and control capabilities.
20. "Microgrid" means a group of interconnected loads and Distributed Energy Resources within clearly defined electrical boundaries that acts as a single controllable entity that can connect and disconnect from the Electric Power Grid to enable it to operate in either grid-connected or off-the-grid (islanded) mode.
21. "Microgrid Operator" means the registered operator of a Microgrid, which shall be the primary party responsible for overseeing the operation of the microgrid equipment (including, but not limited to, Distributed Energy Resources and Distribution Infrastructure), providing maintenance, delivering contracted services, billing for such

Deleted: <#>"Electric Power Generation Company" means any natural person or legal entity engaged in the production or generation of electric power in the Commonwealth of Puerto Rico. This term shall include cogenerators already established in Puerto Rico that supply energy to PREPA through a Power Purchase Agreement, and renewable energy producers. ¶
 <#>"Electric Power Grid" means the electric power transmission and distribution infrastructure of the Commonwealth of Puerto Rico currently operated, supported, and administered by the Puerto Rico Electric Power Authority ("PREPA"). ¶
 <#>"Electric Power Service" or "Energy Service" means any service provided to a Customer in Puerto Rico by a certified electric power company. ¶
 <#>"Energy Producer" means any natural person or legal entity that owns an electric power production facility in Puerto Rico that is an eligible business in accordance with the provisions of Act No. 73-2008, known as the Economic Incentives Act for the Development of Puerto Rico. ¶
 <#>"Electric Bill"

Deleted: "Electric

Deleted: natural person or legal entity

Deleted: In the case of PREPA, it shall also include transmission and distribution.

Deleted: grid

Deleted: to store

Deleted: grid

Deleted: , regardless of where the resource is located on the transmission system, distribution system, or behind a customer's meter

Deleted: <#>"Green Energy" refers jointly to Sustainable Renewable Energy, Alternative ... [1]

Deleted: <#>such as demand response

Deleted: or "Electric Interconnection"

Deleted: power plants

Deleted: the same electric power transmission and/or distribution systems

Deleted: <#> "Interconnection Charge" means the fair and reasonable amount of money that a person [2]

Deleted: <#>customer and a distribution network. Meters may, but are not required, to be equipped... [3]

Deleted: ,

Deleted: distributed energy resources

Deleted: with respect to PREPA's grid. The goal of microgrids is to reduce energy consumption based on [4]

Deleted: PREPA's grid

Deleted: both

services, and serving as the primary point of contact. The Microgrid Operator may or may not be the owner of the Microgrid.

22. "Municipality" means the local government legal entity organized and existing pursuant to Article VI, §1 of the Constitution of the Commonwealth of Puerto Rico and Act No. 81 of August 30, 1991, as amended, known as the Autonomous Municipality Act of the Commonwealth of Puerto Rico.

Deleted: , composed of a Legislative and an Executive Power, subordinate to

Deleted: its laws, that is responsible for a geographical demarcation with all of its wards ("barrios"), and which has a specific name.

23. "Owner" refers to the Person or Persons with a direct proprietary interest in a Microgrid system. The proprietary interest over a Microgrid system is separate and independent from the proprietary interest over the equipment used by the Microgrid to supply Energy Services and/or Other Grid Services. As such, Microgrid equipment vendors who lease or offer third-party financing options are not subject to the provisions of this Regulation, provided such equipment vendors do not offer Energy Services and/or Other Grid Services, as such terms are defined herein, or do not otherwise act as Microgrid Operator.

Deleted: <#>"Net Meter" means a tool used to measure and register the two-way flow of power (bidirectional), that is, supplied and received energy in kilowatt-hour by a customer who has a distributed generation system interconnected to the power grid of PREPA. ¶
<#>

24. "Person" means a natural person; a legal entity created, organized, or existing under the laws of the Commonwealth of Puerto Rico, the United States of America, any state of the union, or any foreign state or country; a Municipality or a consortium of Municipalities; or a government entity (other than PREPA).

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25. "Personal Microgrid" means a Microgrid owned by no more than two Persons producing energy primarily for consumption by its owner(s).

Deleted: <#>"Power Purchase Agreement" or "PPA" means any agreement or contract approved by the Commission whereby an electric power generation company is bound to sell electric power to a person, and such person is, in turn, bound to acquire said electric power at a just and reasonable rate. ¶

26. "PREPA" means the Puerto Rico Electric Power Authority, a corporate entity created by virtue of Act No. 83 of May 2, 1941, as amended, and any successor distribution or transmission owner or operator.

27. "Renewable Resource" means any combination of Alternative Renewable Energy Resources or Sustainable Renewable Energy Resources.

28. "Sustainable Renewable Energy Resource" refers to the energy sources listed in Section 1.4(15) of Act 82-2010, specifically:

Deleted: that

Deleted: generated from renewable resources as defined

Deleted: including

- i. Solar energy;
- ii. Wind energy;
- iii. Geothermal energy;
- iv. Renewable Biomass Combustion;
- v. Renewable Biomass Gas Combustion;

- vi. Combustion of biofuel derived solely from renewable biomass;
- vii. Qualified hydropower;
- viii. Marine and hydrokinetic renewable energy, as defined in Section 632 of the "Energy Independence and Security Act of 2007" (Public Law 110-140, 42, U.S.C. § 17211);
- ix. Ocean thermal energy; or
- x. Any other clean and/or renewable energy that the Commission may define in the future through regulation or order as renewable energy.

29. "Third-Party Microgrid" means a Microgrid that is not a Personal Microgrid or a Cooperative, and is owned and/or operated by any Person or Persons for the primary purpose of engaging in the sale of Energy Services and/or Other Grid Services to Customers.

Deleted: "Transmission Infrastructure" and "transmission system" mean the physical equipment used to transmit electric power at voltages of at least 115,000 volts, including but not limited to poles, lines, and transformers.

C. Every word used in the singular in this Regulation shall be understood to also include the plural unless the context indicates otherwise.

Section 1.09.- Controlling Version.

Should any discrepancy between the Spanish version and the English version of this Regulation arise, the provisions of the English version shall prevail.

Section 1.10.- Severability.

If any article, provision, word, sentence, paragraph, or section of this Regulation is disputed, for any reason, before a court and declared unconstitutional or void, such ruling shall not affect, damage, or invalidate the remaining provisions of this Regulation, but their effect shall be limited to the article, provision, word, sentence, paragraph, or section that is declared unconstitutional or void. The nullity or invalidity of any article, word, sentence, paragraph, or section in any specific case, shall not affect or jeopardize in any way its application or validity in any other case, except if it specifically and expressly invalidates all cases.

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Section 1.11.- Forms.

The Commission shall establish the forms it deems necessary to conduct the proceedings pursuant to this Regulation, and shall inform the public via its website. Notwithstanding, the fact that the Commission has not adopted one or more forms, is in the process of reviewing them, or the Internet website is out of service, shall not release any party of its obligation to comply with the provisions stated herein, provide the information required by this Regulation or otherwise comply with any applicable Commission order.

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Section 1.12.- Mode of Submission.

The forms, documents, and appearances required by virtue of this Regulation or any order of the Commission must be submitted before the Commission in electronic format according to the instructions which, from time to time, the Commission establishes through an order in relation to the electronic filing system.

If the electronic filing system is temporarily not operating or functioning, the forms, documents, and appearances required by virtue of this Regulation or by any order of the Commission shall be submitted before the Commission in accordance with any instructions that the Commission shall provide at that time through an order.

Section 1.13.- Effect of Submission.

In filing any document before the Commission, the party undersigning such document shall be deemed to have certified that the content of said document is true and that, according to the signer's best knowledge, information, and belief, formed after reasonable inquiry, the document is based on reliable and trustworthy facts, arguments, judicial sources, and information.

Deleted: The presentation of a

Deleted: whose content has been formulated by

Deleted: undersigned

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Section 1.14.- Confidential Information.

If in compliance with the provisions of this Regulation or any of the Commission's orders, a person has the duty to disclose information to the Commission considered to be privileged, pursuant to applicable evidentiary privileges, said person shall identify the alleged privileged information and request in writing for the Commission to treat such information as confidential, pursuant to Article 6.15 of Act 57-2014. In identifying privileged information and requesting confidential treatment by the Commission, the requesting party shall follow the rules and procedures established by the Commission in Resolution CEPR-MI-2016-0009, as such resolution may be amended from time to time, for the filing, handling and treatment of confidential information. Except in the case of information protected under the attorney-client privilege, the claim of confidential treatment shall, under no circumstances, be grounds for denying such information from being filed with the Commission.

Section 1.15.- Validity.

Pursuant to Section 2.8 of the LPAU, this Regulation shall enter into effect thirty (30) days after its submission to the Department of State and the Legislative Library of the Office of Legislative Services.

Section 1.16.- Penalties for Non-Compliance

Any Person who fails to comply with any of the requirements set forth in this Regulation may be subject to a Notice of Non-Compliance pursuant to Chapter IV of Regulation 8543² and may, as a result of such non-compliance, lose its status as a

² Regulation on Adjudicative, Notice of Noncompliance, Rate Review and Investigation Procedures.

registered Microgrid system or be subject to any other applicable administrative sanction or penalty deemed appropriate by the Commission.

Section 1.17.- Compliance with Other Applicable Legal Requirements

In developing a Microgrid System pursuant to this Regulation, the owner, operator and/or developer of such Microgrid system shall also ensure to fully comply with any and all applicable legal and regulatory requirements established and enforced by other relevant local, state and federal government entities. The granting of an authorization to operate as a registered Microgrid system under this Regulation shall not relieve a party from fully complying with other applicable legal and regulatory requirements enforced by any other government entity.

CHAPTER II - MICROGRID PROVISIONS

ARTICLE 2.- MICROGRID CATEGORIES

Section 2.01.- Microgrid Classification.

- A. Microgrids shall be classified as on of the following:
1. Personal Microgrid.
 2. Cooperative Microgrid.
 3. Third-Party Microgrid.
 4. Any other ownership or operational arrangement not contemplated herein may be submitted for Commission review, along with any supporting information the Commission may deem relevant.
- B. Microgrids shall be subject to various requirements based on their classification, as follows:
1. Except as otherwise stated in Section 2.02 of this Regulation, there are no other requirements for Personal Microgrids under this Regulation.
 2. The requirements for Cooperative Microgrids are described in Article 4 of this Regulation.
 3. The requirements for Third Party Microgrids are described in Article 5 of this Regulation.
 4. The requirements for Microgrids owned or developed by PREPA are outside the scope of this Regulation. PREPA proposed microgrids shall be addressed through applicable resource planning processes.
 5. The requirements for systems of types not listed above are the same as those for Third Party Microgrids, except as determined by the

Deleted: the imposition of a penalty, as provided in Article 6.36 of Act 57-2014 or

Deleted: by ownership structure, size, and whether or not they engage in off-system sales of energy and/or other grid services to entities other than PREPA.

Deleted: <#>Microgrids may be owned by any of the following;
<#>Individuals;
<#>Partnerships;
<#>Customer cooperatives of at least three or more members;
<#>Single municipalities;
<#>Groups of municipalities or any

Deleted: administrative division of the Commonwealth;
Single non-profit or for-profit entities and government entities, other than municipalities, and administrative divisions, excluding PREPA (hereafter referred to as "third-parties");
PREPA;
Other

Deleted: arrangements that are

Deleted: to the

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Deleted: . Upon review of the proposed arrangement,

Deleted: will determine the applicable provisions of this Regulation.
Microgrids shall be classified based on size according to the following:
Individual systems are those with one or two customer-owners;
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;
Large systems are those with more than 10 customers or generating capacity over 250 kW. ... [5]

Deleted: not sell energy and/or other grid services outside of their self-supply system to entities other [6]

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Deleted: individual self-supply systems

Deleted: small cooperative systems engaged in self-supply (hereafter referred to as "small cooperative" [7]

Deleted: large cooperative systems engaged in self-supply (hereafter referred to as "large cooperative" [8]

Deleted: small municipal systems, large municipal systems and third-party systems are described in... [9]

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Deleted: other administrative divisions, are the same as those for systems owned by single ... [10]

Deleted: third-party systems

Commission under the exemptions process described in Article 7 of this Regulation.

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Section 2.02.- Sale of Energy Services and other Grid Services.

- A. Except as otherwise provided in sub-section (C) of this Section, Personal Microgrids may provide Energy Services and/or other Grid Services to its Owner(s) or to PREPA.
- B. Except as otherwise provided in sub-section (C) of this Section, Cooperative Microgrids may provide Energy Services and/or other Grid Services to its Members or to PREPA.
- C. Personal Microgrids and Cooperative Microgrids may sale excess Energy Services and/or other Grid Services to Person(s) other than those listed in Subsections (A) and (B) of this Section, as applicable, subject to Commission authorization. In such cases, the Microgrid must submit, during its application or at any moment thereafter but before engaging in the sale of such Energy Services and/or other Grid Services, a detailed request to the Commission describing the proposed arrangement between the Microgrid and the Person(s). Such Microgrids must provide any information relevant to the proposed arrangement or that may be required by the Commission. The Commission shall issue a determination on the request within thirty (30) days of receipt.

ARTICLE 3.- MICROGRID TECHNICAL REQUIREMENTS

Section 3.01.- Microgrid Composition

A Microgrid shall consist, at a minimum, of generation assets, loads and Distribution Infrastructure. Microgrids shall include sufficient generation, storage assets and advanced distribution technologies³ to serve load under normal operating and usage conditions. If a Microgrid includes Meters, all members of each customer-class must be equipped with comparable metering technology.

Deleted: distribution infrastructure

Deleted: metering technologies

Deleted: infrastructure. Microgrids must qualify as either "renewable," "combined heat-and-power," or "hybrid" depending on the composition of the generation assets on the system.

Section 3.03.- Eligible Generation Resources

Microgrids may use either "renewable," "combined heat-and-power," or "hybrid," generation resources, each described as follows:

Deleted: 02.- Renewable

- A. "Renewable" Microgrids – Renewable Microgrids have the following qualifications:

Deleted: "

³ Advanced distribution technologies are equipment such as sensors, power conditioning equipment and other equipment suitable for regulation of voltage and/or frequency, control systems, communication systems, and automation technologies.

1. The primary energy source of the Microgrid must be one or more Renewable Resource(s) as defined in Section 1.08 of this Regulation.

Deleted: system

Deleted: a renewable energy resource

2. For Renewable Resources to be the “Primary energy source”:

Deleted: “ means that:

a. Seventy-five percent (75%) of the energy output of the system during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter must be from a Renewable Resource;⁴

Deleted: total energy input of the system (in MWh) on an annual basis

b. The fuel used by non-renewable generation must be no more than 2,500 Btu per total energy provided by the microgrid;⁵

Deleted: renewable energy resource(s); and

c. The non-renewable generation must operate at a heat rate of no more than 13,000 Btu/kWh at full output; and

Deleted: The

d. The sum of installed renewable energy generating capacity and electrical energy storage capacity (in MW) of the Microgrid shall exceed the expected peak demand of the Microgrid.

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3. Except as otherwise provide herein, use of fossil fuel by a Microgrid may not, in the aggregate, exceed twenty-five percent (25%) of the total energy output of the system during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter.

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4. Use of fossil fuel by a Microgrid is limited to those purposes identified in 18 C.F.R. §292.204(b)(2) or to operate the Microgrid during periods when the Renewable Resources are unavailable.⁷

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Use of any grade of fuel oil

5. A Renewable Microgrid Operator may apply for an exemption, under Article 7 of this Regulation, of the twenty-five percent (25%) limit on

Deleted: 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.

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⁴ For microgrid delivering power as alternating current output will be measured at the alternating current terminals of the generator, after any inverter converting direct current power to alternating current. For microgrids delivering power as direct current, output will be measured at the direct current terminals of the generator, after any inverter converting alternating current power to direct current.

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Renewable microgrids must demonstrate compliance with the qualifications in part (A)

⁵ As an example, this standard may be met by a generator operating at 10,000 Btu/kWh, providing 25% of the Microgrid electric energy.

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Any microgrid registered as “renewable” that is found by the Commission to be non-compliant with the qualifications in part (A) of this Section, may be subject to a Notice of Non-Compliance pursuant to Chapter IV of

⁷ Use of oil, natural gas and coal by a Microgrid, under Section 3(17)(B) of the Federal Power Act, is limited to the minimum amounts of fuel required for ignition, startup, testing, flame stabilization, and control uses, and the minimum amounts of fuel required to alleviate or prevent unanticipated equipment outages, and emergencies, directly affecting the public health, safety, or welfare, which would result from electric power outages.

Deleted: 8543 and may, as a result of such non-compliance, lose its status as a licensed microgrid system or be subject to any other administrative sanction or penalty deemed appropriate by the Commission.

energy output from fossil fuels due to electrical equipment damage from force majeure events.

- B. “Combined heat-and-power” (CHP) Microgrids – CHP Microgrids must meet the following requirements during the 12-month period beginning with the date the Microgrid first produces electric energy and each 12-month period thereafter:⁸

1. The useful thermal energy output of the system is no less than fifty percent (50%) of the total energy output.
2. The fuel input, minus the useful thermal energy output, is no more than 7,000 Btu per kWh of generator output.

- C. Hybrid Microgrids – In order to be considered as a “Hybrid”, a Microgrid must comply with the following:

1. The renewable portion of its generation capacity must meet the requirements of Renewable Microgrids established in Subsection A of this Section; and,
2. The combined heat-and-power portion of its generation capacity must meet the requirements of CHP Microgrids established in Subsection B of this Section.
3. Any application for a Hybrid Microgrid under this Regulation shall explain how the renewable, CHP and any storage and backup capacity will operate and comply with the requirements described in this Section.

Section 3.04.- Forms of Demonstrating Compliance

- A. Renewable Microgrids must demonstrate compliance with the qualifications in Section 3.03(A) of this Regulation. The following three alternatives for demonstrating compliance are acceptable. Applicants shall select the preferred alternative and identify such in the application for registration.

1. Operational Plan.

Include an operational plan describing the type of generation assets on the Microgrid and how they will be used to meet anticipated demands, and, for each year thereafter, submit an annual operational report detailing fuel usage and demonstrating compliance with the qualification in Section 3.03(A) of this Regulation.

⁸ Appendix B of this Regulation contains several examples on how to meet these requirements.

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2. Oil- and gas-fired generators.

Renewable Microgrid with generating assets limited to solar photovoltaics and oil- or natural gas-fired generators shall be assumed to comply with these requirements if it consumes less than a monthly fossil fuel limit, as calculated using the template provided in Appendix A of this Regulation and submitted along with its application. Microgrids shall maintain monthly records of fuel consumption, and submit an annual fuel consumption report for each year the Microgrid is in operation.

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3. Diesel-fired generators.

Any Renewable Microgrid with generating assets limited to solar photovoltaics and diesel-fired generators shall be assumed to comply with these requirements if it consumes less than 3.5 gallons of diesel fuel per month per kilowatt of photovoltaic capacity. Microgrids shall maintain monthly records of fuel consumption, and submit an annual fuel consumption report for each year the Microgrid is in operation.

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B. CHP Microgrids must demonstrate compliance with the qualifications in Section 3.03(B) of this Regulation, as follows.

1. Applications for CHP Microgrids shall include a description of the generation and heat-recovery equipment to be installed and the use of the thermal energy, as well as a heat flow plan showing the fuel input, electric generation and useful thermal energy output and consumption for typical operating conditions. Where more than one generator is to serve the Microgrid, the application shall describe all the generation assets and how they will be dispatched to meet anticipated electric and thermal demands.

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2. Microgrids shall be required to submit annual operational reports detailing fuel usage, electric generation, and thermal energy consumption, demonstrating compliance with the qualification in Section 3.03(B) of this Regulation.

C. Hybrid Microgrids shall submit separate demonstrations of compliance for both the renewable portion and the CHP portion of the Microgrid.

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Section 3.05.- Codes and Standards

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Microgrids shall comply with the applicable codes and standards identified by the Commission through resolution and/or order. The Commission may, from time to time, review and, when necessary, modify and update, the codes and standards that shall apply to Microgrids under this Regulation.

Section 3.06.- Interconnection with PREPA's System

Microgrids may interconnect with the Electric Power Grid in accordance with applicable regulations or procedures adopted by PREPA, its successor or the operator of the Electric Power Grid.

ARTICLE 4.- REQUIREMENTS FOR COOPERATIVE MICROGRIDS

Section 4.01.- Ownership Restriction

No single Member of a Cooperative Microgrid may possess or control more than thirty-five percent (35%) ownership stake.

Section 4.02.- Size of Cooperative Microgrids

Cooperative Microgrids shall be classified based on size according to the following:

1. Small Cooperative Microgrids are those with a total generating capacity of 250 kW or less; and
2. Large Cooperative Microgrids are those with a generating capacity exceeding 250 kW.

Section 4.03.- Application and Registration

Any Person interested in developing a Cooperative Microgrid must submit an application for registration as described in Article 6 of this Regulation. This application shall contain at least the following information:

A. Contact information:

1. The application must provide the following contact information:
 - a. Name of the Microgrid Owner.
 - b. Name of the primary contact (Cooperative Microgrids must designate at least one Cooperative Member as the primary contact).
 - c. Mailing address
 - d. E-mail address; and
 - e. Phone number.
2. Name and contact information (as described above) of the Microgrid Operator, if such Person is different from the Person identified as the Microgrid Owner.

- B. Operational structure: The application shall identify the proposed Microgrid as a Small or Large Cooperative, as applicable.

C. Location: The application must identify the Municipality (or Municipalities) in which the Microgrid is located, and a map showing the geographical boundaries of the proposed Microgrid.

D. Number of Members: The application shall identify the number and type of Cooperative Members that will be served by the Microgrid, such as, but not limited to:

1. Public housing buildings and households.
2. Other multi-family buildings and households.
3. Other single-family households.
4. Critical facilities (e.g. hospitals, other medical facilities, water- and waste-water-treatment facilities, police stations and fire stations)
5. Irrigation customers.
6. Retail stores, and
7. Other commercial and industrial buildings.

E. Type of Generation: The application must identify the type of generation proposed for the Microgrid, as provided in Section 3.03 of this Regulation, and the form for demonstrating compliance therewith, as provided in Section 3.04 of this Regulation.

F. System resources: The application must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the Microgrid.

G. Equipment vendor: The application shall include the name and contact information for the primary vendor(s) or installer(s) of the Microgrid.

H. Certification of Design: Prior to construction, the application shall include a certification of the Microgrid design signed and stamped by licensed engineer.

Section 4.04.- Rate for Service

- A. The cost-per-share shall be determined by the Members of the Cooperative Microgrid.
- B. Cooperative Microgrids may collect deposits at the discretion of its Members. Deposit amounts shall be fair, just, and reasonable, and shall not discriminate against any individual Cooperative Members.
- C. Rates for Service may be based on consumption, peak load, or another metric at the discretion of the Members of the Cooperative, provided such rates are

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fair, just, and reasonable, and not discriminatory against any individual Members of the Cooperative.

Section 4.05.- Additional Requirements Applicable to Large Cooperatives

Large Cooperatives shall also comply with the following reporting requirements. Small Cooperatives are not required to provide the information described herein.

- A. Large Cooperatives shall submit an annual report on fuel usage, generation, and sales to the Commission. This report shall include:
1. Electric generation by resource type;
 2. For CHP microgrids, useful thermal output by resource type;
 3. Fuel use by resource type;
 4. Capacity factor by month and year;
 5. Total electricity production (in kWh);
 6. Any change in the number of Members, including additions and departures of Members; and
 7. Any other information that the Commission may require.
- B. Large Cooperatives must maintain and submit to the Commission copies of any reports required by the US EPA and the Puerto Rico Environmental Quality Board.

ARTICLE 5.- REQUIREMENTS FOR THIRD-PARTY MICROGRIDS

Section 5.01.- Ownership and Sales Restrictions

Third-Party Microgrids may sell Energy Services and/or other Grid Services to Customers who are directly connected to the Microgrid system as well as to PREPA, subject to the non-discrimination requirements in Section 5.10 of this Regulation.

Section 5.02.- Certification

In addition to complying with the requirements set forth in this Regulation, any Microgrid Operator considered an Electric Service Company, as such term is defined in Section 1.08(A)(5) of Regulation 8701,⁹ shall comply with any and all applicable requirements set forth in Regulation 8701.

For the purposes of this Regulation, a Microgrid Operator overseeing the operation of a Third-Party Microgrid, or a group of Third-Party Microgrids, with an aggregate generating capacity of one megawatt (1 MW) or more will be considered an Electric

⁹ Amendment to Regulation No. 8618 on Certification, Annual Fees, and Operational Plans for Electric Service Companies in Puerto Rico.

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<#>Supporting calculations, following the template provided in Appendix A, as an attachment to the application.
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Service Company. In such cases, the Microgrid Operator shall comply with the requirements of Section 3.07(A)(1)(a), 3.07(A)(2) and Article IV of Regulation 8701.

Section 5.03.- Registration

Any Person interested in owning and/or operating a Third-Party Microgrid must submit an application for registration as described in Article 6 of this Regulation. This application must contain at least the following information:

A. Contact information:

1. The application must provide the following contact information:

- Name of Microgrid Owner;
- Mailing address;
- E-mail address; and
- Phone number.

2. The application shall identify the name of the Person that will serve as Microgrid Operator and the contact information described in items (b), (c) and (d) above, if different from that of the Microgrid Owner.

B. Operational structure: The application shall identify the proposed Microgrid as a Third-Party Microgrid.

C. Location: The application must identify the Municipality (or Municipalities) in which the Microgrid is located, and a map showing the geographical boundaries of the proposed Microgrid.

D. Number of customers: The application must include the total expected number of Customers to be served by the Microgrid.

E. Type of Generation: The application must identify the type of generation proposed for the Microgrid, as provided in Section 3.03 of this Regulation, and the form for demonstrating compliance therewith, as provided in Section 3.04 of this Regulation.

F. System resources: The application must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the Microgrid.

G. Equipment vendor: The application shall include the name and contact information for the primary vendor(s) or installer(s) of the Microgrid.

H. Certification of Design: Prior to construction, the application shall include a certification of the Microgrid design signed and stamped by licensed engineer.

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I. Sample documents: The application shall include the following:

1. A model contract for Commission review and approval, in accordance with Section 5.09 of this Regulation.
2. A sample bill for Commission review and approval.
3. Any prospective changes to the model contract or the bill format submitted along with the application must be approved by the Commission prior to their implementation.

J. Billing model:

1. Third-party Microgrids shall bill their customers on a per-kWh basis.
2. Microgrids unable to bill on a per-kWh basis may request authorization from the Commission for an alternative payment structure. Such request shall explain the reasons why the use of a per-kWh billing method is preferable, as well as the preferred alternative payment structure and the calculations supporting that structure, as described in Section 5.04(D) of this Regulation.

K. Proposed rate structure, as described in Section 5.04 of this Regulation,

Section 5.04.- Rate Structure

- A. Microgrid Operators must charge uniform rates across all Customers of the same customer-class of a single Microgrid system. Within a customer-class, charges may be structured in any non-discriminatory manner, including but not limited to energy rates varying by usage block, time of use, season, system load and condition.
- B. The rate at which energy and grid services are sold shall be project specific cost-based rates, supported by substantial documentation. It shall be computed as the expected annual costs divided by expected sales. The expected annual costs shall be calculated as follows:
1. The projected investment in the microgrid system, net of tax credits, grants or subsidies, times a carrying charge, which shall be the levelized payment at a cost of capital over the life of the project (in years).
 2. Plus the annual operating costs of the system, including fuel, maintenance of generation, fees, regulatory charges, meter reading and billing.
- C. For non-metered Microgrids, Microgrid Operators may charge for Energy Services and Grid Services on an alternative basis (for example, per kilowatt

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Model contract: The application for registration

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Renewable microgrids must demonstrate compliance with the qualifications

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Oil- and gas-fired generators. ¶

Any renewable microgrid with generating assets limited to solar photovoltaics and oil- or natural gas-fired generators shall be assumed to comply with these requirements if it consumes less than a monthly fuel oil limit as calculated using the template provided in Appendix B. To use this provision, microgrid owners must assert their intention to ~~do so~~

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of installed or diversified load, or per month). In this case, Microgrid Operators must provide, along with their applications, calculations supporting this alternative charge, demonstrating that it does not exceed the maximum rate established in parts (B) and (C) of this section.

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D. Microgrid Operators shall submit, for Commission approval, a proposed rate structure, including all supporting documentation.

Section 5.05.- Deposits

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Microgrid Operators may require payment of a reasonable deposit. Such deposit shall be uniform among Customer's of the same customer-class.

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Section 5.06.- Billing

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A. Electric 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 Electric Bill which may be issued electronically or by mail.

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B. All Electric Bills must be drafted clearly and plainly so that they are easy to understand without requiring that readers possess any specialized knowledge for their comprehension, and must include the contact information of the Commission and the Independent Consumer Protection Office.

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Section 5.07.- Bill Objections and Suspension of Service

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All Electric Bill objections and suspension of service procedures will be conducted in accordance with Regulation 8863, Regulation on the Procedure for Bill Review and Suspension of Electric Service, or any future regulation approved by the Commission to that effect.

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Section 5.08.- Complaint Procedure

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Microgrid Operators shall develop and publish a procedure for addressing any complaints, other than bill disputes, a Customer may have with regards to the Energy Services and/or other Grid Services provided to the Customer. The procedures shall clearly describe the process through which a Customer may file any complaint or grievance with the Microgrid Operator and the process through which the Microgrid Operator will address said complaint or grievance, including the time period within which such complaints or grievances will be addressed.

Any Customer dissatisfied with a determination made by the Microgrid Operator in relation to a complaint or grievance made pursuant to this Section may file a complaint with the Commission for review of such determination by the Microgrid Operator. Such complaint shall be filed pursuant to Regulation 8543.

Section 5.09.- Standard Contract

Microgrid Operators shall develop a standard form contract to be used for all Customers with the exception that rates may vary for each customer-class. The contract shall be written in plain language and shall include, but not be limited to:

1. The effective date of the contract;
2. The termination date of the contract;
3. All rates and charges for which the customer shall be charged, including, but not limited to, late payment fees and reconnection fees, as applicable;
4. The billing period;
5. The terms and conditions for the suspension of service to the Customer, including the requirements for reconnection;
6. An existing Customer's shall be authorized to transfer their rights and responsibilities under a Microgrid contract to a subsequent Customer.
7. Force majeure provisions
8. Terms and conditions by which the Microgrid Operator may have the right to enter the Customer's premises;
9. Provisions against the theft of power.
10. The name and contact information to whom Customers shall address any inquiries and complaints;
11. The procedure for addressing and resolving complaints or grievances, other than bill objections, as required by Section 5.08 of this Regulation.
12. Provisions for termination of the contract by either party in accordance with Section 5.11 of this Regulation;
13. A provision that if the contract is assigned, ceded or transferred, the same terms and conditions shall apply; and,
14. The contract shall be governed and construed in accordance with the laws and under the jurisdiction of the Commonwealth of Puerto Rico.

Section 5.10.- Non-Discrimination

- A. Microgrid Operators covered under Article 5 of this Regulation are prohibited from unduly discriminating against individual Person in the immediate vicinity of a Microgrid if such Persons wishes to receive service from the Microgrid.

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B. In order to demonstrate non-discrimination:

1. Microgrid Operators must submit a map of the proposed Microgrid boundaries showing the loads to be interconnected to the Microgrid.
2. The Commission at its discretion may review the maps and determine whether or not the proposed Microgrid boundaries constitute discrimination.

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C. Microgrid Operators may request reconsideration of a Commission determination of discrimination, in which case they shall demonstrate either of the following:

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1. That based on cost, it is not feasible to connect the Persons who have been excluded. In this case, the Microgrid Operators shall be required to submit a calculation showing that providing service to a specific Person would exceed the average cost of providing service to other Customers of the same customer-class such that the average rate charged to the excluded Person would not permit the Microgrid Operators to recover its costs plus a reasonable return, if applicable.
2. That it is technically not feasible to connect the Person. In this case, the Microgrid Operators shall be required to submit an affidavit signed by a licensed engineer describing the technical barriers that prevent delivery of service to a specific customer.

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Section 5.11.- Contract Length and Exit Requirements

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A. The length of the contract shall be sufficient to allow the Microgrid Operator to recover its costs plus a reasonable return, but in no event, shall the contract term exceed twenty (20) years if a residential customer is one of the contracting parties.

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B. Microgrid Operators may terminate operation and/or remove equipment upon receiving permission from the Commission.

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C. Termination of service:

1. All contracts shall contain language in which each party agrees that either party can seek a termination of service.
2. Termination of service may be triggered by either a Microgrid Operator or a Customer.
3. A notice period of no less than thirty (30) calendar days shall be given by the terminating party to the other party before terminating a contract. The contract shall specify the circumstances under which either party may be entitled to terminate a contract. Notice of

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termination shall be made in writing and delivered by email or regular postal service.

4. Microgrid Operators may charge a reasonable exit fee for termination of service on metered and non-metered Microgrids during the first five (5) years of the contract period, provided, however, that in cases in which a Customer transfer a contract obligation to another Customer, whom shall henceforth use the service provided to the property, the transferring Customer shall not be required to pay an exit fee.
5. In the event a Microgrid Operator, for whatever reasons, is unable to continue providing service to its Customers, such Microgrid Operator shall exercise due diligence to find a new operator who shall assume responsibility to provide service to the Customers under similar terms of service. Should the Microgrid Operator be unable to secure a new operator, such Microgrid Operator shall work with PREPA to ensure that the Microgrid's Customers continue to receive uninterrupted electrical service once the Microgrid ceases providing service. Alternatively, a Microgrid Operator may offer its Customer the option of assuming ownership of the Microgrid, in which case, should the Customers accept, shall apply to the Commission to register and convert the Microgrid into a Cooperative Microgrid.
6. In lieu of the above, a Microgrid Operator may provide additional service guarantees, such as, but not limited to, performance bonds, provided such guranatees ensure Customers will continue to receive uninterrupted electrical service in the event of a default by the Microgrid Operator.

Section 5.12.- Reporting

- A. Microgrid Operators shall be required to submit an annual report on fuel usage, generation, and sales to the Commission. This report shall include:
 1. Electric generation by resource type;
 2. Thermal generation by resource type, for CHP Microgrids;
 3. Fuel use by resource type;
 4. Capacity factor by month and year;
 5. Total sales;
 6. Any change in the number of Customers, including additions and departures of Customers; and
 7. Any other information that the Commission may require.

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Section 6.12.- Fee for Use of PREPA Infrastructure ¶

In cases where the owner of a microgrid intends to use PREPA Infrastructure, such owner shall pay PREPA for the use of such infrastructure located within the boundary of the microgrid, including meters and distribution equipment. ¶

For Small Municipal Systems, the owner(s) of the microgrid shall pay PREPA the amount of \$25 per month per customer, for the use of PREPA Infrastructure located within the boundary of the microgrid, including meters and distribution equipment, up to a maximum of \$250 per month. ¶
For Large Municipal Systems and Third-Party Systems, the owner(s) of the microgrid shall pay a fee as calculated using the template

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The owner(s) of the microgrid

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The calculated monthly rate to be paid to PREPA; and ¶
Supporting calculations, following the template

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- B. Microgrid Operators must maintain and submit to the Commission copies of any reports required by the US EPA and the Puerto Rico Environmental Quality Board.

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Section 5.13.- Rate Review

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- A. Any Operator or Customer of a Third-party Microgrid may petition the Commission to conduct a rate review for the service provided by the Third-party Microgrid, subject to the following restrictions and requirements:

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1. Microgrid rates shall not be subject to review by the Commission for the first three (3) years after the Commission approves their application for registration,

2. Petitions for rate review may be brought by either Customers or Microgrid Operators.

- 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 Microgrid Operator.

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- b. Microgrid Operators may petition for rate review on the basis of unjust or unreasonable rates or on the basis of insufficient cost recovery.

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CHAPTER III PROCEDURES

ARTICLE 6.- REGISTRATION PROCESS

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Microgrids can interconnect with PREPA's system in accordance with applicable regulations adopted by PREPA.¶

Section 6.01.- Registration Form

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- A. Any person interested in developing a Microgrid must complete a registration form, as applicable, for the classification of their Microgrid.

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- B. Registration forms will be available at the Commission website, and will include at a minimum the information set forth in Sections 4.03 and 5.03 of this Regulation, as applicable. Applicants must submit this form to the Commission in electronic or paper format.

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- C. If the registration form is not available, applicants may provide the information required for the relevant Microgrid type to the Commission in a paper or electronic format of their choice.

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Section 6.02.- Commission Review

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- A. The Commission shall review all applications for completeness and compliance with this Regulation, pursuant to the provisions of LPAU.

B. The Commission shall issue a determination on each application within thirty (30) days of receipt;

1. Granting the Microgrid status as a Registered Microgrid, subject to compliance with Section 6.03 of this Regulation;

2. Requiring additional information and/or specific revisions; or

3. Denying registration of the Microgrid.

C. The Commission may issue a determination of denial of any application on the basis of Microgrid location, cost, composition, or other considerations.

D. Ongoing duty to notify. If, at any point prior to or after a Commission determination has been made pursuant to this Section, any of the information provided by a Microgrid owner and/or operator as part of an application for registration changes or is expected to change, the Microgrid owner and/or operator shall have the responsibility of notifying the Commission of such change no later than ten (10) days from the date the change takes place. Failure to promptly update and notify the Commission of any such changes may result in a Notice of Non-Compliance, pursuant to Section 1.16 of this Regulation.

Section 6.03.- Compliance Certifications

A. After a Microgrid has been fully constructed, but prior to beginning operation, the Microgrid owner and/or developer shall file with the Commission the following:

1. A written certification signed by a licensed engineer indicating that the Microgrid, as built, complies with all regulations including, but not limited to, regulations of the U.S. EPA, all codes and standards as ordered by the Commission under Section 3.05 of this Regulation, and local siting regulations and ordinances.

2. A certification of the Microgrid 'as built' design signed and stamped by a licensed engineer.

3. A certification of inspection signed by a licensed engineer or licensed electrician, when authorized by law to do so.

B. The filing of the documents and information required in Sub-section (A) of this Section shall constitute authorization to the Microgrid owner and/or operator to begin operation of the Microgrid.

C. The Commission may review the information provided and may require the Microgrid owner and/or operator any additional information the Commission determines necessary or convenient. In the event of non-compliance or if the

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Commission determines, from the information provided, that the Microgrid fails to comply with any of the requirements set forth in this Regulation, the Commission may, at its discretion, take any appropriate action necessary to ensure the safety and reliability of the service provided to the microgrids Members or Customers.

Section 6.04.- Filing Fee

A. Except for Microgrids covered under Section 5.02 of this Regulation, any application for registration of a Microgrid system shall include payment of a filing fee as follows:

1. Small Cooperative Microgrids: \$50.00
2. Large Cooperative Microgrids and Third-Party Microgrids: \$100.00

B. Microgrids covered under Section 5.02 of this Regulation shall be exempt from payment under this Section. Proof of payment of the applicable fees under Regulation 8701 shall be provided in order to claim the exemption from payment established herein.

ARTICLE 7.- EXEMPTIONS

Any Microgrid Operator may file a request for exemption or modification of any of the requirements under this Regulation. Any request for exemption shall describe the provision from which the applicant seeks exemption or for which the applicant requests a modification and shall include a clear justification of the applicant's request. This opportunity to file for an exemption may occur at the time of seeking approval or at a later date such as when the Microgrid is already in operation due to a change in circumstances. In ruling on such motions, the Commission shall consider the reasonableness of the request; the cost impact on the project and the Members or Customers of the Microgrid project including the prudence of incurred or anticipated costs, if applicable; whether the exemption is supported by the Members or Customers or potential Members or Customers of the Microgrid; whether the exemption is in the public interest and any other relevant factors pertaining to the requested waiver.

ARTICLE 8.- RECONSIDERATION AND JUDICIAL REVIEW

Section 8.01.- Request for Reconsideration

Any person that is not satisfied with a decision made by the Commission under this Regulation may file, within the term of twenty (20) days from the date copy of the notice of such decision is filed by the Commission's Clerk, a request for reconsideration before the Commission wherein the petitioner sets forth in detail the

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grounds that support the request and the decisions that, in the opinion of the petitioner, the Commission should reconsider.

Section 8.02.- Judicial Review

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Any person dissatisfied with a final decision of the Commission under this Regulation may, within thirty (30) days from the date copy of notice of a final decision addressing a request for reconsideration is filed by the Commission's Clerk, or within thirty (30) days from the date copy of the notice of a Commission final decision is filed by the Commission's Clerk, if a request for reconsideration has not been filed, appear before the Court of Appeals of the Commonwealth of Puerto Rico by way of writ of judicial review, pursuant to Section 4.2 of LPAU and the applicable Rules of the Court of Appeals.

Agreed upon by the Puerto Rico Energy Commission, in San Juan, Puerto Rico, on May _____, 2018.

Ángel R. Rivera de la Cruz
Associate Commissioner

José H. Román Morales
Associate Commissioner
Interim Chairman

“Green Energy” refers jointly to Sustainable Renewable Energy, Alternative Renewable Energy and Distributed Renewable Energy.

“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.

“Load” means a customer’s use of energy and/or grid services.

customer and a distribution network. Meters may, but are not required, to be equipped with advanced

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with respect to PREPA’s grid. The goal of microgrids is to reduce energy consumption based on fossil fuels through local renewable energy generation and strategies to reduce energy consumption. A microgrid

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will determine the applicable provisions of this Regulation.

Microgrids shall be classified based on size according to the following:

Individual systems are those with one or two customer-owners;

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,

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

Microgrids that produce energy primarily for consumption by the owner(s) of the system shall be referred to as “self-supply” systems. Self-supply microgrids

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not sell energy and/or other grid services outside of their self-supply system to entities other than PREPA.

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small cooperative systems engaged in self-supply (hereafter referred to as “small cooperative microgrids”)

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large cooperative systems engaged in self-supply (hereafter referred to as “large cooperative microgrids”)

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Page 11: [9] Deleted	CEPR	5/16/18 2:01:00 PM
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small municipal systems, large municipal systems and third-party systems are described in Article 6 of this Regulation.

The requirements for systems

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other administrative divisions, are the same as those for systems owned by single municipalities.

The requirements for systems owned

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CHP microgrids must demonstrate compliance with the qualifications in part (A) of this section. The acceptable forms of demonstration vary by system classification and are described in the relevant Articles below.

Any microgrid registered as “CHP” that is found by the Commission to be non-compliant with the qualifications in part (A) of this Section, may be subject to a Notice of Non-Compliance pursuant to Chapter IV of Regulation 8543 and may, as a result of such non-compliance, lose its status as a licensed microgrid system or be subject to any other administrative sanction or penalty deemed appropriate by the Commission.

Section 3.04.-

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Each hybrid system

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05.- Codes and Standards

Microgrids shall be compliant with existing safety standards; namely, IEEE Standard 1547 for design; UL Standard 1703, UL Standard 1741, or IEEE Standard 1547 for equipment; and the National Electric Code, or any successor code or standard, as such code or standard may be revised, amended or updated from time to time.

ARTICLE 4.- REQUIREMENTS FOR SMALL COOPERATIVE SYSTEMS

Section 4.01.- Ownership and Sales Restrictions

In accordance with the goals of Act 133-2016, Small Cooperative Systems may sell energy and/or other grid services to customers of the microgrid or to PREPA, subject to the following requirements and restrictions:

No single member of a cooperative system may possess or control more than thirty-five percent (35%) ownership stake.

Cooperative-owned microgrids may distribute energy and grid services among its members and may sell excess energy or other grid services to PREPA. Such microgrids may not sell energy or grid services to customers, other than PREPA, who have no ownership stake in the system.

Section 4.02.- Registration

Any person interested in developing a small cooperative microgrid must submit an application for registration as described in Article 7 of this Regulation. This application form shall contain at least the following information:

Contact information:

The application must provide, for registration of the proposed microgrid, the contact information; specifically:

Cooperative name;

Mailing address;

E-mail address; and

Phone number.

Cooperative systems must designate at least one member as the primary contact for the system.

Ownership structure: The application for registration shall identify the proposed system as a small cooperative.

Location: The application for registration must identify the municipality in which the microgrid is located and the addresses of each customer to be served.

Number of customers: The application for registration shall identify the number of customers that will be served by the microgrid, by customer type, including the numbers of:

Public housing buildings and households,

Other multi-family buildings and households,

Other single-family households,

Critical facilities (e.g. hospitals, other medical facilities, water- and waste-water-treatment facilities, police stations and fire stations)

Irrigation customers,

Retail stores, and

Other commercial and industrial buildings.

Microgrid classification: The application for registration must identify the proposed systems as renewable; CHP; or hybrid systems.

Microgrid resource plan: The application for registration must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the system.

Microgrid equipment vendor: The application for registration shall include the name and contact information for the primary vendor(s) or installer(s) of the system.

Certification of inspection: The application for registration shall include a certification of inspection signed by a Licensed Electric Engineer. The certification must indicate that the Microgrid is in compliance with all regulations including, but not limited to, regulations of the US EPA, all safety standards as listed in Section 3.05 of this Regulation, and local siting regulations and ordinances.

Section 4.03.- Rate for Service

The cost-per-share shall be determined by the members of the cooperative.

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.

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.

Section 4.

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.

Section 4.05.- Interconnection with PREPA's System

Microgrids can interconnect with PREPA's system in accordance with applicable regulations adopted by PREPA.

ARTICLE 5.- REQUIREMENTS FOR LARGE COOPERATIVE SYSTEMS

Section 5.01.- Ownership and Sales Restrictions

In accordance with the goals of Act 133-2016, Large Cooperative Systems may sell energy and/or other grid services to members of the microgrid or to PREPA, subject to the following requirements and restrictions:

No single members of a cooperative system may possess more than thirty-five percent (35%) percent ownership stake.

Cooperative-owned microgrids may distribute energy and grid services among its members and may sell excess energy or other grid services to PREPA. Such microgrids may not sell energy or grid services to customers, other than PREPA, who have no ownership stake in the system.

Section 5.02.- Registration

Any person interested in developing a large cooperative microgrids must submit an application for registration as described in Article 7 of this Regulation. This application form must contain at least the following information:

Contact information:

The application must provide, for registration of the proposed microgrid, their contact information; specifically:

Cooperative name;

Mailing address;

E-mail address; and

Phone number.

Cooperative systems must designate at least one member as the primary contact for the system.

Ownership structure: The application for registration shall identify the proposed system as a large cooperative.

Location: The application for registration must identify the geographical bounds of the microgrid. Location information must include the municipality of the microgrid and a map showing the geographical boundaries of the proposed system.

Number of customers: The application for registration shall identify the number of customers that will be served by the microgrid, by customer type, including the numbers of:

Public housing buildings and households,

Other multi-family buildings and households,

Other single-family households,

Critical facilities (e.g. hospitals, other medical facilities, water- and waste-water-treatment facilities, police stations and fire stations)

Irrigation customers,

Retail stores, and

Other commercial and industrial buildings.

Microgrid classification: The application for registration must identify the proposed systems as renewable; CHP; or hybrid systems.

Microgrid resource plan: The application for registration must list the planned sizes and types of assets (including, as applicable, generation, storage, inverters, and other major electrical equipment) to be added or connected to the system.

Microgrid equipment vendor: The application for registration shall include the name and contact information for the primary vendor(s) or installer(s) of the system.

Certification of inspection: The application for registration shall include a certification of inspection signed by a Licensed Electric Engineer. The certification must indicate that the Microgrid is in compliance with all regulations including, but not limited to, regulations of the US EPA, all safety standards as listed in Section 3.05 of this Regulation, and local siting regulations and ordinances.

Use of PREPA infrastructure: The application for registration shall include a listing of the PREPA infrastructure needed by the system, if any, and an estimate of the total fee for purchase or monthly fee for lease of such infrastructure, as provided in Section 5.05 of this Regulation.

Section 5.03.- Demonstration of Qualifying Composition

Page 18: [15] Deleted

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Section 5.07.- Interconnection with PREPA's System

Microgrids can interconnect with PREPA's system in accordance with applicable regulations adopted by PREPA.

Page 18: [16] Deleted

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SMALL MUNICIPAL SYSTEMS, LARGE MUNICIPAL SYSTEMS, AND

Page 18: [17] Deleted	CEPR	5/16/18 2:01:00 PM
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In accordance with the goals of Act 133-2016, Small Municipal Systems, Large Municipal Systems and

Page 18: [18] Deleted	CEPR	5/16/18 2:01:00 PM
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customers of the microgrid or to PREPA, subject to the following requirements and restrictions:

Small and Large Municipal systems must be owned by a single municipality, a group of municipalities, or another administrative division of the Commonwealth.

Third-party systems may be owned by any for-profit or non-profit entity, or governmental agency apart from municipalities, other administrative divisions, and PREPA.

Small Municipal Systems, Large Municipal Systems and Third-Party Systems may sell energy and/or other grid services to PREPA as well as to other customers

Page 18: [19] Deleted	CEPR	5/16/18 2:01:00 PM
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, in addition to complying with the requirements set forth in this Regulation,

Page 19: [20] Deleted	CEPR	5/16/18 2:01:00 PM
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geographical bounds of the microgrid. Location information must include the municipality of the microgrid

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inspection signed by a Licensed Electric Engineer. The certification must indicate that the

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Page 19: [22] Deleted	CEPR	5/16/18 2:01:00 PM
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is in compliance with all regulations including, but not limited to, regulations of the US EPA, all safety standards as listed in Section 3.05 of this Regulation,

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Page 20: [23] Deleted	CEPR	5/16/18 2:01:00 PM
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applications may include a detailed operational plan describing the type of generation assets on the system and how they will be used to meet anticipated demands. Microgrids will then be required to submit annual operational reports detailing fuel usage and demonstrating compliance with the qualification in Section 3.02 of this Regulation.

Oil- and gas-fired generators.

Any renewable microgrid with generating assets limited to solar photovoltaics and oil- or natural gas-fired generators shall be assumed to comply with these

requirements if it consumes less than a monthly fuel oil limit as calculated using the template provided in Appendix B. To use this provision, microgrid owners must assert their intention to do so in their applications to the Commission, submit calculations following the template provided in Appendix A, maintain monthly records of fuel consumption, and submit an annual fuel consumption report.

Diesel-fired generators.

Any renewable microgrid with generating assets limited to solar photovoltaics and diesel-fired generators shall be assumed to comply with these requirements if it consumes less than 12.5 gallons of diesel fuel per month per kilowatt of photovoltaic capacity. To use this provision, microgrid owners must assert their intention to do so in their applications to the Commission, maintain monthly records of fuel consumption, and submit an annual fuel consumption report.

CHP microgrids must demonstrate compliance with the qualifications in Section 3.03 of this Regulation.

Microgrid applications shall include a description of the generation and heat-recovery equipment to be installed and the use of the thermal energy, as well as a heat flow plan showing the fuel input, electric generation and useful thermal energy output and consumption for typical operating conditions. Where more than one generator is to serve the microgrid, the application shall describe all the generation assets on the system and how they will be dispatched to meet anticipated electric and thermal demands.

Microgrids shall be required to submit annual operational reports detailing fuel usage, electric generation, and thermal energy consumption, demonstrating compliance with the qualification in Section 3.03 of this Regulation.

Hybrid microgrids shall submit separate demonstrations of compliance for each renewable portion and CHP portion of the system.

Section 6.05.- Rate for Service

System owners

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rate charged by system owners for energy and grid services may escalate yearly at a rate no greater than one-quarter ($\frac{1}{4}$) of the percentage change in average fiscal-year "Other Goods and Services Consumer Price Index" from the Government Development Bank¹ over the FY 2017 average of 116.4. However, in no event shall the rate exceed the greater of (1) the

¹ Available at <http://www.gdb-pur.com/economy/documents/05-PRICE-2017-10-23.xls>

maximum rate established in in part (B) of this section 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.

B.