

**COMMONWEALTH OF PUERTO RICO
PUERTO PUBLIC SERVICES REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

ENSYSA ENERGY, LLC

Petitioner

NEPR-IR-2022-0001

Request for Interpretation

Re: Regulation on Microgrid Development

NEPR

Received:

Sep 8, 2022

6:38 PM

REQUEST FOR INTERPRETATION

COMES NOW, Ensysa Energy, LLC (hereinafter, "Ensysa"), through undersigned counsel, and very respectfully states and prays:

1. Ensysa is an energy project developers in Puerto Rico and the Caribbean, concentrated in industrial, commercial and utilities off-takers. Our integrated solutions are focused on energy cost reduction, reliability, and service. Through a memorandum of understanding, Ensysa partnered with Siemens Energy and is currently co-developing projects in the market mentioned above. Their portfolio includes co-generation through microgrids, battery storage solutions, gas turbines and engines, renewable energy (both solar and wind), and hybrid systems to help lower CO2 emissions. Our solutions are custom-made for each customer and include facility and energy data analysis, design, procurement, installation, operation, and maintenance. Financial services alternatives for each customer solutions are available.
2. Ensysa herein requests an interpretive resolution from the Puerto Rico Energy Bureau determining that an isolated, electrical island project, as described below, would not fall under the purview of the Regulation on Microgrid Development, Regulation No. 9028 ("Microgrid Regulation"). Our reasoning follows.

Facts

3. Ensysa is currently in discussions with a homeowners' association (comprised of both residential and commercial members) involving the development of an energy generation project that would consist of a solar photovoltaic facility, a battery energy storage system

Request for Interpretation
Ensysa Energy, LLC
page 1 of 9

(BESS), and reciprocating engines to be operated on liquefied natural gas (LNG) or biogas (hereinafter, "Project"). The Project would be constructed on private land and would operate in a completely islanded mode. That is, it would not be interconnected with the grid of the Puerto Rico Electric Power Authority ("PREPA"). Though the Project would use exclusively private infrastructure to generate energy, it contemplates using PREPA-owned distribution infrastructure to deliver energy to its users, all of whom are located within a long-standing mixed-use residential and commercial complex. All of the energy generated by the Project would be sold to and consumed by the homeowners' association (for common elements), the individual residents, and the commercial establishments operating within said complex.

Applicable Regulation and Case Law

Microgrid Regulation

4. The Microgrid Regulation generally applies to the registration, development, and operation of microgrids that serve end-use customers. A "microgrid" is defined in the Microgrid Regulation as "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**" (added emphasis).

5. The Microgrid Regulation was adopted to establish the regulatory framework for the development of smaller decentralized energy resources that would independently and more quickly commence operation to provide energy in the event of massive power outages such as those caused by hurricanes. That is,

"[b]ecause Microgrids can operate in 'islanded' mode, disconnected from the electric grid, they are able to independently provide electric service during grid outage periods or interruption. 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."

Section 1.03 of the Microgrid Regulation.

6. A microgrid generally operates while connected to the grid, but it can break off and operate on its own using local energy generation in times of crisis like storms or power outages or for other reasons.¹ By islanding from the grid in emergencies, a microgrid can both continue serving its load when the grid is down by providing a platform to support critical services from hosting first responders and governmental functions to providing key services and emergency shelter.²

7. Therefore, the essential and defining feature of a microgrid is that it can provide energy service to specific communities or facilities when the main grid cannot do so, while at the same time being able to connect and disconnect from such grid. The Microgrid Regulation was adopted in the wake of the devastation caused by Hurricane María to pave the way for these types of parallel technologies, not to regulate totally independent systems that operate completely off-grid as an electrical island.

Microgrids Registered Before the Energy Bureau

8. Case no. NEPR-CT-2018-0002 involves the Toro Negro Solar Community microgrid. In a resolution dated November 5, 2018, the Energy Bureau began its analysis by citing the regulatory definition of a “Microgrid” as an entity that can be connected and disconnected from the electrical grid.³ Although the resolution dated September 20, 2019⁴ stated that the proponents did not plan to interconnect the proposed microgrid to PREPA’s grid and that the nature of the system was essentially off-grid, the design of the system provides for each residence to have a transfer switch

¹ See <https://www.energy.gov/articles/how-microgrids-work#:~:text=A%20microgrid%20connects%20to%20the,then%20functions%20as%20an%20island.>

² See <https://www.districtenergy.org/microgrids/about-microgrids97/features.>

³ See <https://energia.pr.gov/wp-content/uploads/sites/7/2018/11/Resoluci%C3%B3n-NEPR-CT-2018-0002.pdf>, page 3 of resolution.

⁴ See [Resolución-y-Orden-NEPR-CT-2018-0002.pdf](#), page 5 of resolution.

that would be able to interconnect to PREPA's grid if the resident so desired and that inverters would be connected in such a way as to be able to charge the system batteries with energy supplied by PREPA.⁵

9. For its part, case no. NEPR-CT-2018-0003 concerns the COSSMA, Inc./Esperanza Village microgrid. In a resolution dated November 28, 2018, the Energy Bureau stated that, according to the proposal, the point of interconnection with PREPA and the transfer switch would be located at a PREPA meter bank.⁶ Likewise, the microgrid would have only one point of interconnection with PREPA's grid.⁷ In its resolution, the Energy Bureau also started its analysis by citing the regulatory definition of "microgrid" as an entity than may interconnect with the grid or operate off-grid.⁸ Moreover, in a resolution dated April 22, 2019, after citing Section 3.06 of the Microgrid Regulation, which provides for ability of microgrids to interconnect with PREPA's grid in accordance with PREPA's regulations and procedures, the Energy Bureau stated that the proposed microgrid would be supplied by PREPA if additional energy was needed.⁹ Finally, in a resolution dated March 5, 2020, according to the proponents, the proposed system would have an interconnection point with PREPA's grid "to benefit in the future from a [net metering] agreement."¹⁰ The Energy Bureau required the proponents to obtain its authorization prior to interconnecting to PREPA's grid.

⁵ See [Resolución-NEPR-CT-2018-0002.pdf](#), page 3 of resolution dated November 5, 2018.

⁶ See [Resolución-NEPR-CT-2018-0003-1.pdf](#), page 2 of resolution.

⁷ See p. 4 of resolution, *Id.*

⁸ See p. 3 of resolution, *Id.*

⁹ See [Resolución-NEPR-CT-2018-0003-2.pdf](#), page 3 of resolution.

¹⁰ Our translation, see [Resolución-y-Orden-NEPR-CT-2018-0003-2.pdf](#), page 6 of resolution.

10. Case NEPR-CT-2020-0004 concerns Banco Popular's microgrid. In a resolution dated September 1, 2020, the Energy Bureau explained that the proposed system would have the functionality of interconnecting with PREPA's grid and also cited the regulatory definition of a microgrid as a unique entity capable of connecting and disconnecting from the electrical grid such that it is able to operate both connected to the grid as well as off-the-grid.¹¹

11. Lastly, case no. NEPR-CT-2021-0004 involves a combined heat and power and energy storage project at Hewlett Packard that would supply its campus¹². While the petitioner in that case represented that the project would not have the ability to interconnect with PREPA's grid, the Energy Bureau determined it "would not operate in such a manner." Consequently, in a Resolution and Order dated July 21, 2022, the Energy Bureau concluded that "to the extent the [project] will not operate in an islanded mode, it constitutes a microgrid, as defined in Regulation 9028.¹³" In other words, had the project conclusively established that it would operate exclusively in islanded mode, it would **not** constitute a microgrid.

12. Thus, the resolutions in cases wherein microgrid applications were approved show a pattern in which the Energy Bureau considers the capability of the system at issue to interconnect with the grid as well as operating off-grid (or in islanded mode) as a determining or central aspect of a microgrid. In all of the above proposals, the systems either would be capable of connecting and disconnecting from the grid or would have the ability to do so in some capacity.

¹¹ See [Resolución-NEPR-CT-2020-0004.pdf](#), page 4 of resolution.

¹² See <https://energia.pr.gov/wp-content/uploads/sites/7/2022/07/20220721-CT20210004-Resolution-and-Order-1.pdf>

¹³ See id., at page 3.

Discussion

13. As explained in paragraph 3 of this motion, although the Project proposes to use PREPA-owned infrastructure, it would operate in a completely islanded mode and would not depend on the functioning or non-functioning of the larger grid. That is, the Project proposes to permanently separate a geographically and electrically defined area, together with its existing electrical infrastructure, and to supply such area exclusively by the Project's energy generation and storage assets. The Project would not fall within the definition of "Microgrid" as defined in the Microgrid Regulation¹⁴ and, unlike the microgrids discussed above, it would not have the capability of interconnecting and operating off-grid. It would only be able to operate off-grid. That is, the Project would not be able to connect to PREPA's grid because of its inherent design and purpose. If there is a grid-wide or major power outage, it would make no difference to the Project, whose purpose would be to continuously provide energy services to its customers, not to supplement the PREPA grid or operate when there is a major power outage.

14. The above conclusion finds support in the publicly available information of cases of microgrid registration, discussed above, wherein the Energy Bureau has noted the ability of a microgrid to interconnect and disconnect from the grid as a fundamental aspect of a microgrid under the Microgrid Regulation.

15. Ensysa takes note that the Energy Bureau initially considered including provisions for purchasing or leasing of PREPA equipment such as lines and poles for use by a microgrid system and that later such provisions were removed from the draft regulation. Specifically, in a resolution dated May 16, 2018, case no. CEPR-MI-2018-0001, the Energy Bureau stated that the "original intention was to facilitate the

¹⁴ Again, per the Microgrid Regulation, a microgrid "can connect and disconnect from the Electric Power Grid to enable it to operate in either grid-connected or off-the-grid (islanded) mode."

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.”¹⁵

16. However, according to the Energy Bureau, questions regarding maintenance responsibilities, replacement of infrastructure due to *force majeure* events, adequate pricing of use fees, and possible changes in design required for the isolation of the equipment led the agency to conclude that providing access to such infrastructure was not appropriate at the time.¹⁶ However, the Energy Bureau stated that it would monitor market developments and determine at a later time if further action was required¹⁷. More than four (4) years have passed since the foregoing statements. Ensysa respectfully submits that time is ripe to address these matters.

17. For example, as part of its Technical Interconnection Requirements submitted in case NEPR-MI-2019, LUMA has considered “mixed-ownership microgrids” wherein a customer owns most of the microgrid assets, specifically the distributed energy resources and interconnection switchgears associated thereto. However, parts of the right of way, wires, lines, poles, services transformers, or any other switchgear that may be required for transferring power to the microgrid customer may be a part of the electric power transmission and distribution system. According to the LUMA filing, the foregoing would be subject to additional studies and engineering for technical fulfillment of the requirements of mixed ownership to ensure that the microgrid distribution energy

¹⁵ See [Resolution- Adoption of Microgrid Regulation \(pr.gov\)](#), pages 19-20 of the resolution.

¹⁶ Id.

¹⁷ Id.

resources can provide reliable and safe power delivery to the customers without harming the electric power transmission and distribution system.¹⁸

18. This Project is atypical in that it may have characteristics of a “mixed-ownership microgrid” but would operate in a totally islanded way, thus, not a microgrid under the Microgrid Regulation. That said, both the Energy Bureau and LUMA have considered the possibility of the Project’s configuration. Ensysa therefore respectfully requests an interpretive resolution as to contracting the use of PREPA infrastructure, whether by purchase, lease, or any other manner.

Conclusion and Petition

19. In light of the above regulatory provisions, resolutions applying such provisions, and the subsequent discussion, the Project should not be considered as a microgrid under the Microgrid Regulation. The Project and its customers would be part of an electrical island. The Project would therefore fall outside of the scope of the Microgrid Regulation, as it would not have the capability to connect to the grid, and its purpose would be to continuously provide energy services to its customers, not to supplement the PREPA grid or operate when there is a major power outage. In addition, Ensysa requests guidance from the Energy Bureau regarding the steps it would need to take for contracting the use of PREPA infrastructure for the Project.

¹⁸ Generally, see [Motion-Submitting-Complete-Version-of-Technical-Interconnection-Requirements-Document-NEPR-MI-2019-0009.pdf](#) but specifically page 13 of the Technical Interconnection Requirements and section 14.9 on page 71 of the Technical Interconnection Requirements.

WHEREFORE, Ensysa respectfully request that the Energy Bureau issue an interpretive resolution confirming the foregoing and provide guidance as to how to contract the use of PREPA infrastructure.

Respectfully submitted, on September 8, 2022.

MCCONNELL VALDÉS, LLC
Counsel for Ensysa Energy, LLC
270 Muñoz Rivera Avenue
San Juan, Puerto Rico 00918
PO Box 364225
San Juan, Puerto Rico 00936-4225
Tel. (787) 759-9292
Fax (787) 759-8282

Por: [s/ Carlos J. Fernández Lugo]
Carlos J. Fernández Lugo
cfl@mcvpr.com
RUA núm. 11,033

Por: [s/ Ignacio J. Vidal Cerra]
Ignacio J. Vidal Cerra
ivc@mcvpr.com
RUA núm. 16,245