

November 20, 2017

Ing. José H. Román Morales  
Associate Commissioner and Interim Chairman  
Puerto Rico Energy Commission  
268 Muñoz Rivera Avenue  
Seaborne Building Plaza (Old World Plaza Building)  
Plaza Level, Ste. 202  
San Juan, PR 00918  
(787) 523-0270

Re: Docket No. CEPR-IN-2017-0002. Energy Commission Investigation Regarding the State of the Puerto Rico's Electric System After Hurricane Maria. Request for Public Comments.

Dear Commissioner Román:

On behalf of the Sierra Club of Puerto Rico, we submit these comments on Docket No. CEPR-IN-2017-0002, "Energy Commission Investigation Regarding the State of the Puerto Rico's Electric System After Hurricane Maria." The Commission is seeking comment on the issues of implementation of regulatory actions to facilitate the tasks of restoring electric service and encourage the deployment of new technologies.

The Sierra Club of Puerto Rico is an environmental community-based organization. The Sierra Club is the largest, oldest and most influential grassroots environmental organization in the United States. Founded in 1892, it has millions of members and supporters across the U.S. including thousands in Puerto Rico. The Sierra Club of Puerto Rico has paid staff and active volunteers, with an office at 1106 B Ave. Ponce de Leon, Rio Piedras, Puerto Rico, and our mailing address at Sierra Club of Puerto Rico, PO Box 21552, San Juan, PR 00931-1552.

On behalf of our thousands of members in Puerto Rico, most of whom are still struggling in the aftermath of Hurricane Maria, we submit the following comments.

**(1) Comments on deadline for Docket No. CEPR-IN-2017-0002.**

We request that the Commission amend its order and extend the public comment period another 30 days – until December 20, 2017. While we appreciate the need of the Commission to obtain information as rapidly as possible, the emergency restoration of electric power on the island and the building of a new and resilient electric system to replace the one that has failed require that the Commission obtain a substantial amount of information. The order requesting public comment in Docket No. CEPR-IN-2017-0002 was not certified until November 10, 2017, and 10 days is simply too short for experts in microgrids, distributed generation, and utility regulation to compile and submit all the information the Commission is requesting.

**(2) Comments on Question “1.5. *What types of expertise (e.g., planning, engineering, customer education, other) are necessary to make the planning, development and operation of microgrids a success? What are current examples of success and failure?*”**

Sierra Club of Puerto Rico strongly supports the implementation of microgrid systems on the Commonwealth. Our island is in the path of tropical storms and scientists are clear that we should be expecting stronger storms in the future. A system that is overly reliant on large power stations and long-distance transmission lines is highly risky in this environment. According to the U.S. Department of Energy:

*“...A microgrid is a group of interconnected loads and distributed-energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode. ... The value of microgrids to protect the*

*nation's electrical grid from power outages is becoming increasingly important in the face of the increased frequency and intensity of events caused by severe weather.”<sup>1</sup>*

Gradually phasing in microgrids will create a more resilient system, and one that can be brought up more quickly at the local level in the case of another major storm impacting the island. Microgrids coupled with distributed generation resources that are renewable like rooftop and community based solar energy, and less based on importing traditional fuels long distances to Puerto Rico, provide the ideal solution for reliable and resilient power.

There are a large number of successful deployments, large scale implementations, small scale pilot projects, and technical references regarding microgrids that can help inform the work of CEPR and PREPA to implement microgrids in Puerto Rico. The U.S. Department of Energy and the National Institute of Standards and Technology have published a series of references and conference papers on the implementation of microgrids and should be tapped as subject matter experts.<sup>2 3 4</sup> In addition, the Community Energy Action Network (CEAN) has recently compiled the following list of successful projects, demonstrations, and technical references:<sup>5</sup>

- U.S Department of Energy. 2014. The Advanced Microgrid: Integration and Interoperability.

[https://energy.gov/sites/prod/files/2014/12/f19/AdvancedMicrogrid\\_Integration-](https://energy.gov/sites/prod/files/2014/12/f19/AdvancedMicrogrid_Integration-)

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<sup>1</sup> U.S Department of Energy. 2014. The Advanced Microgrid: Integration and Interoperability. [https://energy.gov/sites/prod/files/2014/12/f19/AdvancedMicrogrid\\_Integration-Interoperability\\_March2014.pdf](https://energy.gov/sites/prod/files/2014/12/f19/AdvancedMicrogrid_Integration-Interoperability_March2014.pdf)

<sup>2</sup> “DOE Microgrid Workshop Report,” Office of Electricity Delivery and Energy Reliability Smart Grid R&D Program, <http://energy.gov/oe/downloads/microgrid-workshop-report-august-2011>, Aug 2011.

<sup>3</sup> “DOE Microgrid Workshop Report,” Office of Electricity Delivery and Energy Reliability Smart Grid R&D Program, <http://energy.gov/oe/downloads/2012-doe-microgrid-workshop-summary-report-september-2012>, Sep 2012.

<sup>4</sup> SGIP webpage for applicable Smart Grid Interconnections, <http://www.sgip.org/#sthash.6Gcyft6W.dpbs>.

<sup>5</sup>

[https://www.sandiego.gov/sites/default/files/comment\\_letter\\_and\\_attachment\\_regarding\\_the\\_citys\\_100\\_percent\\_renewable\\_electricity\\_efforts.pdf](https://www.sandiego.gov/sites/default/files/comment_letter_and_attachment_regarding_the_citys_100_percent_renewable_electricity_efforts.pdf)

[Interoperability\\_March2014.pdf](#) Highlights advanced microgrid functionality when both interconnected with the grid and in outages.

- NYSEERDA. 2010. Microgrids: An Assessment of the Value, Opportunities and Barriers to Deployment in the New York State. <https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Electric-PowerDelivery/microgrids-value-opportunities-barriers.pdf> Benefits and barriers of traditional microgrids.

- Grimley, Matt & Farrell, John. (2016). Mighty Microgrids. Washington, DC: Institute for Local Self-Reliance. [https://ilsr.org/wp-content/uploads/downloads/2016/03/Report-Mighty-Microgrids-PDF\\_3\\_3\\_16.pdf](https://ilsr.org/wp-content/uploads/downloads/2016/03/Report-Mighty-Microgrids-PDF_3_3_16.pdf)

- Industrial Economics, Inc. 2016. Long Island Community Microgrid Project Feasibility Study, Independent Third-Party Benefit-Cost Analysis, (Appendix A) <https://www.nyserda.ny.gov/-/media/NYPrize/files/studies/8-Town-of-East-Hampton.pdf> Independent confirmation of the value of the Clean Coalition's Long Island Community Microgrid Project

- EPRI. 2014. The Integrated Grid: Realizing The Full Value Of Central And Distributed Energy Resources. <http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002002733>

Grid modernization is critical for integration of solar, wind, electric vehicles and other clean local energy resources.

- San Diego Gas & Electric. 2014. Borrego Springs Microgrid Demonstration Project. <http://www.energy.ca.gov/2014publications/CEC-500-2014-067/CEC-500-2014-067.pdf>...demonstration project highlighting microgrid resilience capabilities and foundation for a Community Microgrid expansion.

- Southern California Edison. 2016. The Emerging Clean Energy Economy. <https://www.edison.com/content/dam/eix/documents/our-perspective/der-dso-white-paper-final-201609.pdf> Utility planning showing the need for grid coordination for large deployments of distributed energy resources.

- Rocky Mountain Institute. 2014. Bridges to New Solar Business Models. [http://www.rmi.org/rmi\\_sunshot\\_doe\\_bridge\\_solar\\_business\\_models](http://www.rmi.org/rmi_sunshot_doe_bridge_solar_business_models) Value of distributed solar resources.
- Clean Coalition. (2016). Hunters Point Community Microgrid Project Power Flow Analysis Methodology. Menlo Park, CA. [http://www.clean-coalition.org/site/wp-content/uploads/2015/08/HPCMP-Grid-ModelingMethodology-report-41\\_jv-30-Aug-2016.pdf](http://www.clean-coalition.org/site/wp-content/uploads/2015/08/HPCMP-Grid-ModelingMethodology-report-41_jv-30-Aug-2016.pdf)
- Clean Coalition. (2016). Feasibility assessment for the Long Island Community Microgrid Project. Albany, NY: New York State Energy Research and Development Authority. [http://www.clean-coalition.org/site/wp-content/uploads/2016/03/FINAL-LICMP-FeasibilityReport-for-CC-website-22\\_kc-30-Aug-2016.pdf](http://www.clean-coalition.org/site/wp-content/uploads/2016/03/FINAL-LICMP-FeasibilityReport-for-CC-website-22_kc-30-Aug-2016.pdf)

In conclusion and given the limited time available, Sierra Club of Puerto Rico provides these targeted comments on Docket No. CEPR-IN-2017-0002. We sincerely hope the CEPR will grant our request for a 30 day deadline extension and we will use the additional time to provide information to the Commission.

Sincerely,



José A. Menéndez

Sierra Club de Puerto Rico

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