

Schneider Electric Comments

Docket Comments for CEPR-MI-2018-0001

Reglamento sobre el Desarrollo de Microredes

Schneider Electric is leading the Digital Transformation of Energy Management and Automation in Homes, Buildings, Data Centers, Infrastructure and Industries. With global presence in over 100 countries, Schneider is the undisputable leader in Power Management – Medium Voltage, Low Voltage and Secure Power, and in Automation Systems. We provide integrated efficiency solutions, combining energy, automation and software. In our global Ecosystem, we collaborate with the largest Partner, Integrator and Developer Community on our Open Platform to deliver real-time control and operational efficiency.

Our expert microgrid team provides microgrid solutions across the US, drawing on the global expertise in some of the world's most challenging environments. We have installed community, military, campus microgrids across the US using a variety of innovative financing models from energy-as-a-service, to Power Purchase Agreements (PPA), to Energy Savings Performance Contracts (ESPCs). We have partners for financing of our microgrid systems, and our engineers in the North America Microgrid Competency Center understand the many intricacies of building a customized solution, its interoperability, and the paramount importance of reliability. We are also a supplier to PREPA.

We applaud the Commission on its commitment to third-party microgrids and private sector involvement in such installations. We agree that there is opportunity for community, critical infrastructure, and industrial microgrids on the island, all of which are essential to robust electrical system. The Commission is on the right track with a comprehensive view of what a modern-day microgrid looks like, and is appropriately moving away from simple back-up generation as a "microgrid".

Puerto Rico is a great opportunity for microgrids, but also a unique challenge. Utility rates are very high, because the island is dependent on fuel for 47 percent of its supply. Moreover, some communities have access to the grid, and the upcoming privatization of PREPA, together with solvency issues, presents a structural challenge for rebuilding the grid to a modern standard.

Below are several recommendations on how to improve the proposed rule and how to avoid some pitfalls that could significantly delay installation of microgrids. We have seen state programs in the past, that, while well-intentioned, receive very little private sector interest because the barriers for compliance are too high.

The commission is right to promote greening of the electrical grid that is currently dependent on fossil fuels. Schneider Electric is committed to be carbon neutral by 2030, and we have an internal price on our carbon emissions. Hence, we fully support customers, supply chain, and others in their commitment to create a greener and more sustainable product, electrical grid, etc.

However, renewable energy must be integrated into the microgrid system wisely. Depending on their geographical position, grid interoperability, and other factors microgrid systems will have different requirements. That means the rules need to be more flexible than in the current proposal. We suggest indicating strong preferences for green energy, and underscore the overall intent of greening of the grid without getting overly prescriptive, otherwise very few projects may materialize, and they will be very costly. The last thing we all want is headlines that expose delays, lack of projects, and unreasonable costs.

Moreover, there is an additional challenge of concurrent solar and microgrid development. Since there is little functioning solar on the island currently, solar will only drive prices down when it is at scale and fully integrated. Initial microgrids will have to rely on a mix of fuel while solar is being built up. We suggest building fuel-flexible microgrids that can be greened further as more solar gets built.

Below are a few specific recommendations:

- We appreciate that the Commission is casting a wide net of an owner of a microgrid. The Commission may not be aware of situations where the owner leases a microgrid in an energy-as-a-service scenario, or perhaps they meant such a scenario in the “partnership” category. Or in other parts of the document. For example, Montgomery County microgrid is leased by the county and is owned by one third-party company. In that scenario, the ownership may be one third party company that owns the system. We’d like to see clarification upfront in Section 2.01 that systems that are leased by the customer are allowed, and that one company could own the microgrid and lease it.
- The average rate restriction – shall not exceed PREPA’s average rate of 20.22 cents. It makes sense that microgrid systems should have rates that are similar to what the grid typically provides (sometimes less as in the case of our Boston HQ microgrid). However, there will be exceptions in Puerto Rico where critical infrastructure facility in a particularly remote area either has no access to reliable transmission lines or has other limitations that on one hand make a microgrid necessary, but on the other drive the cost up. If a microgrid is built in such a critical facility and there is a 25% restriction on oil and gas input, then cost may exceed the average rate (this will only become clear when projects go through pricing stage).
We would ask for 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. Of course, we don’t want these systems to be perceived as expensive gimmicks, but we also need to be realistic about costs of systems on the island, especially when we don’t know how fast they will scale. However, traditional reliance on a few back-up generators in hospitals and other critical facilities is not an answer.
- We agree with the goal to rely more on renewable energy. Thus, there is a restriction in the proposal on the amount of oil and gas – 25% of the total energy input of an individual microgrid. While the goal is understandable, it may end up a tricky proposition in certain areas of the island. Currently, the island is mostly dependent on important oil and natural gas for electricity. The costs are two to three times more than on the mainland, so it is

critical to bring in renewables. But, not all areas can switch immediately, solar will need to scale first, and some areas near LNG facilities, for example Penuelas, may have immediate access to natural gas at an economically feasible price. An assessment will have to be done for individual sites to determine if renewables or natural gas or a combination make sense for an individual area, but it is dangerous to apply a blanket maximum to natural gas. Perhaps, the requirement instead should be to consider renewables first, but in areas where natural gas would have significant economic advantage, allow for gas to have a higher input into the system.

- Individual sites will have individual needs. We want to make sure that “hybrid” microgrids as defined by the Commission are not discriminated against in favor of “renewable” microgrids. As one of the greenest companies in the world, we want the same standards and sustainability for our clients as we do for ourselves. In all non-military installations, our microgrids have a robust renewable and battery component. We propose that the Commission gives equal footing to hybrids simply because each community will have different geological, economic, and other inputs, and while we can commit to doing as much renewables as possible, without individual site assessments it’s hard to tell whether some areas should have a larger hybrid component. Therefore, we advise against blanket statements in regulation that may hinder a reliable source of power for a particular community or critical facility.
- It is a little confusing in that various sections seem to mention non-cooperative third-party microgrids as allowed, but there is a dedicated section only for cooperative systems. We want to ensure that third-party owned systems that are not in a coop structure are fully allowed under the proposal.
- Similarly, the fee structure for PREPA infrastructure within the bounds is for small/large cooperative systems – we assume that a third-party microgrid system that is not a coop will have to abide by the same fees, but we’d like clarification on third-party owned non-cooperative systems.

We appreciate the opportunity to comment and commend the Commission for its work on microgrid development. For questions, please, contact Anna Pavlova at 202-203-9847, or anna.pavlova@schneider-electric.com

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