



ADVISORY POINTS ON CASE NO.: CEPR-IN-2017-0002

Zach Wilson <zhw613@gmail.com>

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To: comentarios@energia.pr.gov

In response to the PREC Request for Public Comments seeking regulatory actions to facilitate the restoration of power after Hurricane Maria impacted Puerto Rico on September 20, 2017 the following feedback is respectfully submitted. Please consider the following as input from a citizen who is interested in the well being of Puerto Rico and as a small business owner who believes the following considerations can support the growth of sustainable, resilient business operations in Puerto Rico.

1. The function of the PREC is to provide technical oversight to the state-owned electric utility. The PREC does not need to align the private and public interest often found in the mainland when IOU is given a franchise in exchange to an obligation to serve all. The PREC is obligated to evaluate proposed expenditures before they happen, because there's no mechanism available to disallow expenditures that will not affect the public.
2. As long as the energy provider is competent, there's no advantage to having the utility own/deploy/operate/maintain microgrid facilities.
3. Having multiple microgrid operators can possibly burden the PREC, it is hard to enforce safety/reliability compliance for a large number of actors. However, a Puerto Rico Independent System Operator (PRISO) can be commissioned with maintaining System (1) Balance [frequency], (2) Regulation [voltage], (3) Stabilization [transient], (4) Synchronization [interconnection]. It will be much easier for the PREC to regulate PRISO than providing oversight to numerous regional microgrids.
4. Current microgrid success are found in military installations, strongly suggest to seek out the facilities personnel at Fort Buchanan.
5. The incumbent utility should be in the business of deploying and maintaining offgrid residential solar/battery facilities in dwellings with low energy/capacity needs [especially en el campo]. This approach may be more cost effective than rebuilding long distribution primaries.
6. IREC limitation of 15% of the annual peak demand on a feeder is not relevant anymore with widespread deployment of smart inverters – see NREL Advanced Inverter Technology for High Penetration Levels of PV Generation in Distribution Systems [NREL/SR-5D00-60737]
7. Standards – The microgrid facilities should follow design, operation, and integration guidelines per IEEE 1547.4, but more importantly the facilities [system level] should be certified through Conformity Assessment per IEEE Std 1547.1 – this certification vets the interconnected system functionality and safety features.

Sincere regards,

ZW

Zach Wilson

Managing Partner
New City Energy
[202-669-6116](tel:202-669-6116)