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August 27, 2018

Sr. Edison Avilés Deliz, et al
Chairman, Puerto Rico Energy Commission
Re: Regulation on Retail Wheeling
Case No: CEPR-MI-2018-0010
Response to Request for Public Comments

Responders

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General Comments

We laud the determination of the Commission to seek public comment on the potential shape of the market and regulation of retail wheeling. We also believe that sending a transparent and reasonable signal to the market regarding not only future rules, but also process, in advance of finalizing the same is a worthwhile undertaking that will support market transformation and speed economic recovery. In that spirit, we have provided summary responses and recommendations in response to the questions posed to the public.

Having voiced our support, we must also note our concerns.

- This effort to review and promulgate regulations for retail wheeling is likely to be difficult to finalize with open questions as to the future of market design. Market design (whether rate-regulated, vertically-integrated; or some form of retail competition) has a major impact on transmission system operations. While we understand the desire to move quickly, we caution against the haste with which this comment period has been undertaken. We also strongly believe the public should have between 60 - 90 days, not 20.
- Given the exceedingly short time allowed, our comments represent primarily our expertise and direct experiences, do not reflect substantive research on the issues as they may relate to Puerto Rico, and with the lack of time, parties cannot benefit from the refinement that comes from the ability to collaborate and exchange ideas with peers.
- Lack of sufficient context makes it extremely difficult to provide accurate and thorough answers to the questions asked. For example:
 - The nature of some questions reveals instances of a top-down, command-and-control utility market perspective that may prove a significant impediment to an efficient and successful transformation of the energy market.

- The original law that opened wheeling (2008 Law 73) may restrict energy wheeling only to renewable sources of generation and a *prima facie* review leads us to conclude that Act 57-2014 does not appear to have changed these provisions.
- To have a functioning market, wheeling cannot be limited to certain types of generation, and must also consider dispatch from storage. If, in fact, existing law limits this, it must be amended.

We hope that there will be a next phase to this effort and that the Commission will provide a more extended period of time for review and response and that it will lay out a framework for its vision of the future market and regulation at that time to provide necessary context.

Responses to Specific Questions

1. General Questions Regarding the Regulations

**1.1. Should PREPA continue to own generation, or should PREPA divest all of its generation assets?
PREPA should divest most if not all of its generation.**

1.2. How should supply be procured? Should it be procured through bilateral contracts, or through a centrally dispatched wholesale market?

We must recognize that procurement of supply will no longer be the sole responsibility of a single central utility while acknowledging that there will be a prolonged transitional phase between current practices and what the market can and will become. The truth is that the future market will be considerably more complex and the regulatory system that governs and nurtures it will need the ability to manage aspects of both bilateral contracts and wholesale dispatch.

1.3. Given that wheeling would allow more buyers of electricity than PREPA, should there be an independent system operator to ensure reliability and administer financial transactions?

Because we believe that PREPA should divest generation, there will be more than one owner of generation (perhaps many more if utility-scale renewable projects are constructed. There should absolutely be an independent system operator (ISO) and for many more reasons than suggested by the question.

Puerto Rico has the opportunity to build a resilient, 21st century electric grid; from generation all the way through to distributed generation and customer storage. To maximize that opportunity, we counsel relying on the “lessons learned” from other U.S. states. Specifically, the issue of dealing with transmission constraints seems likely to apply to Puerto Rico in the future. The Federal Energy Regulatory Commission (“FERC”) adopted Orders 888 and 889 to ensure that the most economically efficient generation in a market was able to reach customer load. Those Orders led to the formation of ISOs.

ISOs provide markets with a mechanism for preventing market power use by transmission owners; it has been proven that ISOs increase reliability and efficiency in markets; and we recommend that the following study be closely reviewed, and the principles outlined within it be followed:

<https://sites.hks.harvard.edu/fs/whogan/swit0698.pdf>

1.4. How would you suggest the Commission ensure non-discriminatory open access to the grid?

We see this as a fundamental part of the charter and role of the ISO. In fact that is one of the primary reasons FERC adopted Orders 888 and 889 and encouraged the formation of ISOs. An ISO serves as an independent, non-discriminatory arbiter of transmission issues – and the ISO can create incentives for

the building of more transmission, where necessary; those incentives would then lead to private entities building the transmission required, rather than PREPA and the taxpayers of Puerto Rico having to finance those costs.

1.5. Should the wheeling mechanism include PREPA (or any successor entity) as a default supplier for retail services? Or should all customers be required to choose a supplier?

This question exposes fundamentally deeper unanswered issues about future market design and transition. Without irony we believe the answer is Yes and Yes. This is the primary question facing Puerto Rico's government as it considers its future – and it is why we cautioned against adopting specific wheeling rules before this question is fully vetted and answered.

It is our view that there are pros and cons to both a default supplier and to retail competition. We cannot urge you strongly enough to address this fundamental question before adopting provisions around generation, transmission, and distribution.

1.6. Should there be reporting requirements to enable customers to have accurate comparisons between other suppliers and PREPA?

Yes – for customers, the regulator, lawmakers - everything should be transparent. This applies whether Puerto Rico chooses a rate-regulated, vertically integrated model; or a retail competition model. For example, one problem many rate-regulated states face is that the vertically-integrated utilities wind up being the only entities with access to all the data regarding costs and pricing. This creates huge obstacles to mid-to-large demand customers who are evaluating distributed energy, storage, and energy efficiency options.

States like California have interesting models underway, for example ENACT Systems is data company that provides service to utilities around the world, in California, ENACT is working with a major California vertically-integrated utility to provide customers with transparent and complete access to cost and pricing issues surrounding distributed generation and storage.

Regardless of whether Puerto Rico chooses rate-regulation or retail competition as its market structure, Puerto Rico should enact rules providing customers with as much access to data as is possible – and those rules should be frequently reviewed and expanded to keep pace with the breakneck pace of technological innovation in data.

1.7. Should the same consumer protection requirements for PREPA apply to suppliers/Energy Service Companies? What new consumer protections should be implemented for Energy Service Companies? **There must be consumer protections for market confidence but they will not necessarily be identical assuming one seller is also a distribution provider and the other is not. Ample examples exist for these kinds of protections in other markets.**

At a minimum, we counsel that the Puerto Rico Energy Commission should have administrative processes that provide all customers with a forum to pursue disputes against Energy Service Companies. We also urge the adoption of a Customer Bill of Rights – which should be modeled on a best-practices review of all such Bills of Rights in the U.S.

1.8. Should there be collars on contract lengths?

Given the needs for investment and rebuilding, we cannot envision a better way to reduce the cost of capital than establishing collars and floors on contract lengths. Puerto Rico should encourage the

market by ensuring that contract rights will be protected, while at the same time establishing reasonable limits on contract lengths to reduce concerns over winding up “trapped in a bad bargain” forever. Although, as the market matures these restrictions might be loosened – therefore we encourage any provision on contract lengths to also include a plan for regular reviews (we suggest five years, which balances certainty with flexibility).

1.9. Should suppliers have a limit on market share?

Again, this goes to the fundamental question facing Puerto Rico: Will there be a vertically-integrated, rate regulated approach; or will retail competition be enacted? Again, there are pros and cons to both choices; but if Puerto Rico decides to move forward with a vertically-integrated, rate regulated approach, it seems likely that economies of scale savings would justify having one, privately-owned, rate-regulated provider for all of Puerto Rico. If Puerto Rico chooses to move forward with a retail competition model, then it seems wise to having market share caps for providers during the early years of that model to prevent one entity from establishing market power and using market power to the detriment of customers.

1.10. Should community choice aggregation be permitted?

Yes – this should absolutely be part of a retail competition model; and if Puerto Rico moves forward with a vertically-integrated model, aggregation should also be permitted (under the authority and oversight of the PREC).

1.11. Does integrated resource planning (IRP) continue to occur after wheeling is implemented? If so, what is the best way to ensure a meaningful IRP in the context of retail competition? What parties, if any, should have responsibility for “procuring” resources identified in the IRP? What happens if the resources identified in the IRP are not being procured? What parties should be responsible for procuring energy efficiency resources and demand response resources?

Regardless of market structure choice, vertically-integrated or retail competition; the answer is yes, IRP continues. However, this is a much more detailed question about market design and requires considerable additional data and thought.

System planning must continue and could probably fall under the ISO with support and assistance from distributors, generators, and other market participants and within the guidance/requirements of the law and direction of the PREC.

Market signals in a transparent, open, and competitive system will encourage the addition of capacity payments and/or demand reduction. The nature of the response of the market will provide indications of needed course correction to maintain a balance of resources. Future regulators and market participants need to be aware and prepared to act upon them. Provided market rules do not prevent them from so doing, parties with the most at risk or to gain will procure energy efficiency and/or demand response resources.

1.12. What are the best ways to level the playing field for distributed energy resources to compete with traditional generation resources?

Restructuring and privatization of PREPA will go a long way in the right direction but fundamentally the new market design needs to radically alter the incentive structure. PREPA, historically and presently, has only incentives to be obstructive, i.e., distributed generation reduces customer contributions to PREPA's revenues.

How about taking responsibility for permitting and interconnection of distributed resources away from PREPA, placing it under the regulator, staffing it with the qualified individuals currently employed by PREPA, and rewarding them on the basis of how much, how many, and how quickly they can process requests and complete interconnection while maintaining high standards of safety and quality?

And, incidentally, we believe this is the wrong question. It should be: In a few years time, what can be done to level the playing field for traditional generation to compete with distributed energy resources including storage?

1.13. Who should be responsible for stranded costs, if any?

It depends on which model Puerto Rico adopts... Under a retail competition model, if generation assets become stranded it will be the responsibility of the Owners to decommission them and absorb any losses. Transmission and distribution assets should probably get different treatment depending on future market design and the rules written to support reasonable expectations of investment recovery (not a guarantee).

Under a vertically-integrated model, and this is to us one of the 'cons' counting against this market structure model, stranded costs become a problem for all customers retaining any connection to the grid. And we would highlight here that in every State, even those with very high levels of distributed generation, the vast, vast majority of customers with distributed generation are still connected to the grid.

1.14. Are there any particular considerations regarding microgrids that should be considered in the development of wheeling regulations?

Absolutely, but not enough information is yet available to make definitive decisions or even recommendations at this time. Microgrids are, in our opinion, absolutely going to increase in prevalence in the future – and they have significant impacts on the vertically-integrated model; their impacts on the retail competition model are less worrisome as the market has much greater flexibility than any vertically-integrated model.

1.15. How will the implementation of wheeling impact the privatization of PREPA? What are some of the factors the Commission should take into consideration in drafting wheeling regulation?

Without making assumptions about future market structure, there are too many variables to provide reasonable answers. Hypothetically, the ability to seek buyers other than PREPA's successors could reduce pressure on transitional contracts and/or make generation more valuable in the sale. And it, should create more and more varied interest from groups interested in the distribution concessions. But we are very concerned that adoption of wheeling regulations before a final decision on market structure is made is only going to have to unwind or amended to reflect the market structure's needs.

1.16. How should the Commission address the issue of supplier default? Who should be responsible for serving the customers of a defaulting supplier? Should customers be allocated to remaining suppliers or should PREPA or its successor entity be responsible?

Other markets can offer a model on how to ensure supplier performance and mechanisms for back-up supply. But again, this question begs the question: Is Puerto Rico going to adopt a vertically-integrated model, or retail competition?

1.17. How should the Commission address firm point-to-point wheeling in the event that the transmission system cannot accommodate this without further upgrades? Will the reconstruction of new transmission post-Hurricane Maria allow for firm service?

This seems a question aimed more at PREPA's technical group and leadership than the public. We do not believe this is currently possible in Puerto Rico given the nature and status of the grid system – at least in the way it is understood in other markets. This can be addressed when and if technically feasible or desired. Firming of supply will need largely to come from onsite or possibly new community or regional resources.

And we here again repeat our strong belief that an ISO will be the best approach for resolving transmission systems issues – an ISO could adjudicate the issue of transmission constraints, provide parties (including customers) with data to inform decisions they could make on demand, energy efficiency, distributed generation that could ameliorate constraints. In a retail competition model, an ISO could establish incentives to address known constraints that would lead market participants to construct and finance solutions.

1.18. What financial or credit requirements should be in place for suppliers/Energy Service Companies? Should Puerto Rico move forward with retail competition or vertically-integrated service, the PREC should issue certificates of convenience and necessity ("CC&Ns") to companies that prove financial and operational capability. We encourage Puerto Rico to work with the National Association of Regulatory Utility Commissioners to establish rules for CC&Ns that reflect current best practices. CC&Ns require detailed applications by potential providers that will provide Puerto Rico with the ability to audit and investigate operational and financial capacity.

And, very importantly, PREC should have statutory ability to suspend and/or revoke CC&Ns for failure of a supplier or energy service company to provide safe, adequate, and reliable service; or for failing to comply with the Customer Bill of Rights that we recommended earlier in our responses.

2. Cost Recovery and Allocation

2.1. What regulations and mechanisms need to be in place to ensure viable revenue and business models for the owner/operator of the transmission and distribution network?

A reasonable answer to this question requires more information and considerably more time for analysis. We favor and recommend a market structure with one separate transmission operator and several regional distribution concession operators. The ability to compare and contrast the relative competitive performance of distribution operators helps the regulator and helps test and identify best practices. It also recognizes the fundamental differences in planning and managing an urban network like San Juan from a small island like Vieques, and allows the distribution concession operator to focus on implementing solutions relevant to their environment. From a regulatory perspective, network operation and power sales should be unbundled, but distribution concession holders should also be able to sell energy.

2.2. Should debt service (e.g., collected through a specific charge) for outstanding PREPA debt be a non-bypassable charge, paid by all customers who engage in wheeling? If so, do you have a recommendation as to how such charge should be structured?

It is a sad fact that the legacy costs of the failure of the utility over and above the destruction of Maria will continue to plague the people and economy of Puerto Rico. It is just and prudent that reasonable

accommodations be made to restructure the debts but it must not materially interfere with the transformation and recovery of the market.

The Transition Charges specified in the Preliminary Debt Deal are only really predictable assuming PREPA continues to operate as a monopoly utility. It cannot. In fact the crystallization of the added “tax” is likely to accelerate grid defection. The utility will progressively lose sales as it or its successors become more of a system operator rather than a power provider.

This risk to the generation of cash flow for debt service puts pressure on utility, the government, and by extension the regulator to slow or inhibit the transformation of the grid into resilient distributed systems and could become a hindrance to the recovery and prosperity of Puerto Rico.

Lest it become “the tail that wags the dog,” the ultimate deal on debt must not in any way infringe upon the utility or the energy infrastructure system as a whole to evolve, or the government or regulator to act in full discretion for the benefit of Puerto Rico.

The answer to the question is a resounding NO. Legacy debt costs should not be paid by all nor should it be applied equally. The charge (given there will be one) needs to differentiate large and small generators and large and small consumers and treat them differently. As a framework:

- Power wheeled from large central plants (>20MW) making full use of the system infrastructure should attract the full tax,
- Smaller plants (<20MW,>5MW) and those connecting directly to regional grids should pay less on a sliding scale, and
- Small (<5MW) and distributed scale generation and storage that virtually net meter and/or wheel between locations and serve smaller commercial consumers (<500kw) pay nothing.

Imperfect as this is, it preserves a balance between the rational expectations of creditors and the need to incentivize new and distributed infrastructure necessary to lower costs and give Puerto Rico the ability to move toward greater resiliency and energy security.

Approached thoughtfully now, this doesn’t have to inhibit the growth of distributed nonutility generation and could enhance the certainty for creditors and future system operators alike. Moreover, availability of quality, reliable power, significantly reducing actual average power costs, and creating expectations of stability or even further reductions will trigger acceleration of energy consumption from depressed levels that could significantly increase the rate of recovery for creditors.

2.3. Should there be an “exit fee” to enable PREPA or its successor to recover any stranded generation costs resulting from the loss of customers to competition? If so, do you have a recommendation as to how it should be structured? What other mechanisms should be implemented to prevent shifting of costs to consumers who do not choose a competitive supplier?

In general, no. For existing central generation the sale is the exit fee. In the future, PREPA and successors will not be monopsony buyers or monopoly sellers. They will continue to operate the distributed systems. As large customers shift, system operation revenue continues. As a power supplier PREPA and successors must manage their purchase/production/sales/contractual risks like everyone else. Large scale complete exits, like large manufacturing microgrids exiting the system or system municipalization, should be rare enough to deal with case by case. These types of events are more likely to put pressure on revenues derived from distribution volumes and merchant generation.

What does it suggest that this question begins with the assumption that PREPA's successors would not be competitive in power sales?

2.4. How is the revenue requirement for the owner/operator of the transmission and distribution network best determined? Should there be a supply and delivery component to the rates?

There should be several components to all-in rates and they should be determined and regulated separately for accuracy and transparency making good use of modeling, sensitivity analysis, and benchmarking. A multi-year, periodic look forward (rather than back) operational plan should be used to set rates, with course correction annually for material changes. We cannot recommend this strongly enough. Too many U.S. states use "historic year" evaluations that look back at "test years" to set rates. That approach leads to regulatory lag and lumpy investing (utilities loading test years with above average costs by delaying needed improvements and maintenance so that those costs are "in the test year".) Puerto Rico should, in particular, evaluate the Georgia Rate Adjustment Mechanism ("GRAM") which has been in place since 2011 and is, to our minds, the most transparent and effective rate mechanism in the U.S.

Distribution operators should be encouraged to undertake incremental experimentation with new business practices and technology. They should be allowed to earn outsize profits from operational improvements over the baseline assumptions used for rate setting, and suffer losses for the opposite. Care must be taken not to reward or penalize for outcomes outside of the operator's control. Each new multi-year look forward operational plan will raise the bar to account for operational efficiencies achieved (and established best practices) to capture those benefits for customers in the form of lower rates and enhanced services. And, if Puerto Rico adopts a mechanism like the GRAM this will all be transparent to the regulators.

2.5. How should the transmission costs to connect new generation to the grid be treated? Should the cost be socialized among all customers and included in the transmission rate or should it be allocated to the generator? What should be done with respect to network investments/upgrades that cannot be attributed to one particular generator or end user, and should these be allocated?

Optimally, new generation should be responsible for direct costs of interconnection. For shared system upgrades, the obligation could fall on the operator or the generator or be shared, or the ISO could adopt incentives that allow market participants to address the needed improvements. If the costs are placed on the generator, additional recovery should come from follow on new generation benefitting from the upgrades to prevent the free rider problem. System free riders tend to have a chilling effect on development because no one wishes to go first and absorb all the costs. Unattributable network improvements should be just a part of doing business reflected in planning and rate setting.