GOVERNMENT OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU

IN RE: PUERTO RICO TEST FOR DEMAND RESPONSE AND ENERGY EFFICIENCY	CASE NO. NEPR-MI-2021-0009 SUBJECT: ANSWERS TO PREB QUESTIONS

INSTITUTO DE COMPETITIVIDAD Y SOSTENIBILIDAD ECONOMICA DE PUERTO RICO ANSWERS TO PREB QUESTIONS

TO THE BUREAU:

Now comes Instituto de Competitividad y Sostenibilidad Económica de Puerto Rico (ICSE) represented by appearing counsel and respectfully submits its answers to the questions presented by the PREB in the Resolution of August 3, 2020:

1. How should the Integrated Resource Plan ("IRP") best be used to help define energy and capacity impacts within the PR Test?

PREPA should issue a request for proposal (RFP) to procure distributed energy resources via competitive bid. To be eligible, suppliers should offer portfolios of DERs whose costs are less than the cost of new system supply, as described in the IRP (e.g., the ESM Plan). Bids should be evaluated using the Program Administrator Cost (PAC) test. The selection of winning bids should allow PREPA and also the PREB to take into consideration non-price attributes that affect the value of resources to the public and the operator who manages the system. Such attributes to consider are: ramping rates, compatibility with community-based microgrids, technology risk, financial strength of the supplier, etc.

2. What does LUMA use as the definition of system peak when it plans investment in infrastructure?

LUMA defines system peak as forecast peak plus a planning reserve margin (e.g., 15-18%). The Planning Reserve Margin is based on a loss of load probability analysis (e.g., the probability that the system would be unable to serve firm load customers approximately 1-day-in-10-years).

3. What are the current environmental regulations (Federal and Puerto Rico) that should be reflected in the cost of generating electricity?

The avoided cost of generating capacity should reflect the cost of capacity that complies with applicable environmental standards; particularly, the National Ambient Air Quality Standards for Sulfur Dioxide (SO_2), and Mercury and Air Toxics Standards. Relevant cost comparisons should be to the cost of 4-hour batteries.

4. What should be considered the baseline level of reliability, and should that change over time?

Act 17-2019 aspires to modernize our grid to a more robust and resilient one.

Article 1.6 (1) imposes the responsibility to promote the reconstruction and modernization of the grid with the focus of integrating new technologies, renewable energy, distributed generation, and providing consumers with multiple alternatives. Additionally, the aforementioned article in its fourth part establishes as an objective the enabling of consumers to turn into prosumers. Therefore, the baseline level of reliability must be considered keeping in mind these statutory mandates of innovation and consumer prosumer empowerment.

The current reliability level is low, creates major outage costs for customers, and is unacceptable in the longer term. That said, investment in greater traditional grid reliability is unadvised as it is so expensive to provide generation, transmission, and distribution (G+T+D), and this approach deviates from the public policy of decentralizing the energy system. Customers can have higher levels of reliability with solar PV and battery storage systems enabled by smart inverters such as those deployed in California and Hawaii. This will allow customers to have greater reliability, reduce the need to invest in traditional G+T+D, and lower overall costs and rates. Being Puerto Rico a hurricane-prone region, further build-out and upgrade of the G+T+D system simply places any such new assets at risk of likely destruction, and thus further unreliability. Distributed energy resources (DERs) —energy efficiency, demand response, distributed generation (mostly solar PVs), storage, and electric vehicle charging— are more resilient in major storms and thus more likely to continue to provide customer reliability. DERs can be installed in specific locations for specific customers, i.e., a consumer-need tailored design. Community DER facilities can also be installed to serve multiple customers, such as apartments or other multi-family buildings.

Streamlined DERs designed with proper attachments to withstand hurricanes can be more reliable and much easier to repair if damage occurs. The DER solution, thus, is more likely to ensure customer reliability, reduces the need for a fully built-out traditional grid, and enables targeting of customers, including commercial customer needs, to provide reliability at much lower costs. Since the insertion of multiple DERs will then reduce the overall dependency of the grid, customers that seek to rely on the traditional grid can pay less and face less reliability.

The decision to have greater reliability then can be a customer choice. This approach then avoids the massive build-out of the G+T+D system and allows reliability to be increased incrementally where customer who most want greater reliability can participate in the decision to further invest in local electricity infrastructure, i.e., DERs. It now seems very expensive to satisfy the "old-fashioned" approach where all customers are served at the same level of grid reliability. Moreover, bulk grid and distribution reliability are simply prone to greater risks of unreliability from storms prompted by global warming.

It is important that Federal funding is available for consumer centered, distributed energy resiliency resources.

WHEREFORE, it is respectfully requested to consider these answers in further proceedings of the present case.

RESPECTFULLY SUBMITTED this 19, day of August 2021, in San Juan, Puerto Rico.

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