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

IN RE: THE IMPLEMENTATION OF THE PUERTO RICO ELECTRIC POWER AUTHORITY INTEGRATED RESOURCE PLAN AND MODIFIED ACTION PLAN	CASE NO.: NEPR-MI-2020-0012 SUBJECT: PREPA's Response to May 21, 2024 Resolution and Order Addressing SESA Request

RESPONSE OF THE PUERTO RICO ELECTRIC POWER AUTHORITY TO MAY 21, 2021 RESOLUTION AND ORDER ADDRESSING COMMENTS PRESENTED BY THE SOLAR AND ENERGY STORAGE ASSOCIATION OF PUERTO RICO AND STATEMENT OF SUPPORT FOR EXTENSION OF TIME FOR SUBMISSION OF PROPOSALS IN RENEWABLE GENERATION AND ENERGY STORAGE RESOURCE RFP TRANCHE 1

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

On May 19, 2021, the Puerto Rico Solar Energy Industries Association Corp., d/b/a Solar and Energy Storage Association of Puerto Rico ("SESA") filed in the captioned proceeding a letter in which it commented on certain aspects of the Puerto Rico Electric Power Authority's ("PREPA") implementation of its plan for the procurement of new renewable generation and energy storage resources. In that letter, SESA identified "several critical RFP issues [that] are still unresolved, unclear and/or reflect large deviations from market norms that could result in very low participation by bidders, needlessly high bid prices, or both."[1] SESA asked that these issues be addressed "very quickly" and suggested that, even assuming a timely response, "it could be worth considering postponement of the current bid deadline beyond May 28th, perhaps by a month, to

[1] SESA's Further Comments on Implementation of PREPA's Procurement Plan NEPR-MI-2020-0012, including request for considering content & schedule changes, Case No. NEPR-MI-2020-0012 (filed May 19, 2021) at 2.

allow adequate time for potential bidders to integrate changes into their bids and have adequate time for formal Questions and Answers on them."[2]

By Resolution and Order issued in the captioned proceeding on May 21, 2021, the Puerto Rico Energy Bureau of the Public Service Regulatory Board (the "Energy Bureau") directed PREPA to respond to SESA's May 19 letter on or before May 24, 2021 at 5:00 pm.[3] Noting "the importance of the adequate completion of the procurement process," the Energy Bureau directed PREPA to address in its response the three examples of issues SESA had identified as remaining unresolved, and to "provide sample calculation for Performance Security and Performance Bond requirements for a typical project size."[4] PREPA hereby responds to the Energy Bureau's May 21 Resolution.[5]

PREPA's Tranche 1 RFP seeks market participant proposals to provide 1,000 MW of renewable energy resource capacity and 500 MW of energy storage resource capacity, including 150 MW of capacity to be provided by virtual power plants.[6] This is the first of six RFP Tranches soliciting proposals for a cumulative total of 3,750 MW of renewable energy resources and 1,500 MW of energy storage resources to be undertaken during a three-year period in accordance with the approved IRP and Modified Action Plan. Since the publication of the Tranche 1 RFP, PREPA

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[2] *Id*.

[3] Resolution and Order, *In re: The Implementation of the Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, Case No. NEPR-MI-2020-0012 (issued May 21, 2021) (the "May 21 Resolution"), at 2.

[4] *Id*.

[5] PREPA notes that, generally speaking, the Request for Proposals ("RFP") it has issued in accordance with the Energy Bureau's directives in this proceeding prohibits communications between RFP participants and PREPA personnel and between RFP participants and agencies of the Puerto Rico government. PREPA considers SESA, as an association representing Puerto Rico solar and energy storage industries, not to be a participant in the RFP process in its own right, and therefore not barred by the RFP from bringing its concerns regarding the RFP to the Energy Bureau's attention.

[6] *See* Motion Informing Issuance of Renewables RFP Tranche 1, Case No. NEPR-MI-2020-0012 (filed Feb. 22, 2021) at p. 2.

has responded to more than three hundred fifty Requests for Clarification, has offered a number of clarifications and modifications to the RFP, and has issued revised forms of Power Purchase and Operating Agreement ("PPOA"), Energy Storage Services Agreement ("ESSA") and Grid Services Agreement ("GSA") addressing comments offered by prospective bidders. At several points, PREPA has adjusted aspects of the RFP milestone schedule to accommodate various bidder requests for additional time to seek and evaluate information and to incorporate requests for clarification responses into their project proposals. In taking these steps PREPA has attempted to do all that it could to accommodate participant requests and be responsive to participant concerns, in the interest of encouraging broad participation and attracting serious and diverse project proposals. Currently, proposals responding to the Tranche 1 RFP are due, and the evaluation process is to commence, on May 28, 2021.

As PREPA has previously informed the Energy Bureau, aspects of the ongoing RFP require PREPA to solicit resources (in particular, Virtual Power Plants, or "VPPs") with which it, the Puerto Rico energy sector, and the U.S. energy sector generally have little experience. Technical issues relating to the integration of storage and VPP resources into the Puerto Rico grid in its current suboptimal condition are significant, and PREPA does not as of today have in place all of the tools with which to model and manage the integration and lacks all of the systems and infrastructure to manage the operation of large amounts of new intermittent generation, energy storage and VPP resources.[7] Given this, PREPA has had difficulty responding to some of the

[7] PREPA does not currently have in place infrastructure to effectively utilize and control the large number of planned renewable energy projects, distributed energy resources, and energy storage systems that are planned because the current Energy Management System ("EMS") is an outdated Siemens Spectrum system that has several limitations. PREPA needs to select, procure and install a modern electric grid EMS to enable the automatic control of renewable energy projects, conventional power plants, distributed energy resources, and energy storage systems.

Moreover, PREPA does not currently have adequate visibility into some of the technical issues that will arise as it seeks to integrate VPP resources into its distribution system. Currently PREPA has only approximately 10% of its distribution feeders modeled in Synergee (the analytical software used by PREPA), with unknown accuracy.

requests for clarification prospective bidders have posted because in some cases it simply does not yet have precise answers to offer.

SESA's May 19 letter identifies one area – the provision of Minimum Technical Requirements ("MTRs") for VPPs – as to which PREPA has encountered particularly significant challenges. While PREPA has experience with the establishment of MTRs for renewable solar and wind generating facilities, and has released MTRs addressing battery energy storage systems, PREPA has no experience with the technical requirements relevant to the integration into its system of VPPs, which are collections of distributed generation, battery energy storage and demand response resources generally connected at the distribution level and managed by a third party aggregator through software interfacing with an energy management system that PREPA does not yet have in place. Nor can PREPA look to a well-developed body of industry precedent for MTRs specific to VPPs, since VPPs of a similar scale have been implemented in only a handful of U.S. utility systems to date. Accordingly, PREPA has had very little technical bases on which to formulate MTRs for VPPs.

After wrestling with this challenge for the past several months, on April 22, 2021 PREPA informed Tranche 1 RFP participants that, as shown in the revised form of Grid Services Agreement published in Addendum No. 9, § VI, Proponents are invited to submit proposed MTRs

Gathering the data to model the distribution system is a significant undertaking, since the system includes more than 16,000 miles of distribution circuits, loads, distributed generation, as well as substations. Completing the required distribution system modeling (including verification of the model) will take more than four years to complete.

Finally, integration of VPPs requires a level of connectivity which is not currently possible given the limitations of PREPA's transmission and distribution system. Connectivity is necessary for monitoring and control, and for system protection. Besides the data communications path needed to provide visibility and control signals to and from the EMS / SCADA master station(s), an adjacent communications path is required from Distributed Generation Resource site locations to their serving substations to support the requirement for protective relaying.

with their VPP bid responses.[8] PREPA anticipates that this may be done in the form of an exhibit to a VPP Proponent's submitted form of Grid Services Agreement. PREPA expects that it will work collaboratively with Proponents that advance in the process on the development of applicable MTRs. Thus while, as SESA has pointed out, MTRs for VPPs have not yet been made available,[9] PREPA has informed would-be proponents that they are free to propose MTRs for the VPP resources they offer in response to the Tranche 1 RFP. As a practical matter, this is all PREPA can do with the resources and time currently available to it.

Even before receiving the SESA May 19 letter and the May 21 Resolution, PREPA had determined that it would be appropriate, in light of multiple participant comments and a further review of industry precedent, for it to reduce the amounts of Performance Security that Proponents will be required to furnish. PREPA communicated this determination on Friday, May 21, 2021 in a posting to PowerAdvocate®[10] It has formalized this determination in revised forms of PPOA, ESSA and GSA that incorporate the reduced security amounts that have been posted today to PowerAdvocate® in Addendum No. 14.

As revised, the security amounts PREPA is requesting Proponents to furnish break down as follows:[11]

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[8] This was shared with prospective bidders through a posting to PowerAdvocate® in Event No. 112648 on April 22, 2021 (Response No. 83 to RFC Responses 006). This response was cross referenced in RFC Responses 009, Issue Nos. 15 and 23, published on May 21, 2021 with Addendum No. 13.

[9] SESA May 19 letter at p. 2, item 1.

[10] See Addendum No. 13, posted to PowerAdvocate® in Event No. 112648 on May 21, 2021, referencing RFC Responses No. 009 (Issue # 32).

[11] PREPA has proposed no change to the Seller Liability Cap feature of the form of PPOA, ESSAs and GSA. That is, Proponents will continue to enjoy a (Seller-friendly) cap on the overall level of liability a Seller under a Tranche 1 PPOA, ESSA or GSA to which it would be subject. That Seller Liability Cap is described in the Proposal Form of PPOA as follows:

> SELLER's liability to PREPA under this Agreement, whether based on contract, warranty or tort, including errors or omissions, negligence, strict liability or otherwise, or any other claim or cause of action, with respect to any and all Claims shall not exceed the amount equal to the Seller Liability Cap; provided that (i) nothing contained in this Section 11.5 shall exclude or limit SELLER's liability for the Exceptions, and (ii) for

PPOAs: "**Security Amount**" means (i) prior to the Commercial Operation Date, fifty United States Dollars ($50) per kW *multiplied by* the Nameplate Capacity, or such higher amount as agreed in accordance with paragraph (c) of Section 3.5 (*Delay Liquidated Damages*); and (ii) on or after the Commercial Operation Date, seventy United States Dollars ($70) per kW *multiplied by* the Nameplate Capacity.

ESSA (Standalone Battery Energy Storage Project): "**Security Amount**" means (i) prior to the Commercial Operation Date, twelve and one-half United States Dollars ($12.5) per kWh multiplied by Design D^{max} multiplied by the Design D^{max} Duration or such higher amount as agreed in accordance with paragraph (c) of Section 3.5 (*Delay Liquidated Damages*), and (ii) on and after the Commercial Operation Date, seventeen and one-half United States Dollars ($17.5) per kWh multiplied by Design D^{max} multiplied by the Design D^{max} Duration.

ESSA (ITC Compliant Battery Energy Storage Project): "**Security Amount**" means (i) prior to the Commercial Operation Date, twelve and one-half United States Dollars ($12.5) per kWh *multiplied by* Design D^{max} *multiplied by* the Design D^{max} Duration or such higher amount as agreed in accordance with paragraph (c) of Section 3.5 (*Delay Liquidated Damages*), and (ii) on and after the Commercial Operation Date, seventeen and one-half United States Dollars ($17.5) per kWh *multiplied by* Design D^{max} *multiplied by* the Design D^{max} Duration.

GSA: "**Security Amount**" means (i) prior to the Commercial Operation Date, fifty United States Dollars ($ 50) per kW *multiplied* by the sum of the Guaranteed Capability for the Demand Reduction Service *plus* the Guaranteed Capability of the Demand Build Service, in each case for Agreement Year 1, or such higher amount as agreed in accordance with paragraph (c) of Section 3.5 (*Delay Liquidated Damages*), and (ii) thereafter, seventy United States Dollars ($ 70) per kW *multiplied* by the sum of the Guaranteed Capability for the Demand Reduction Service *plus* the Guaranteed Capability of the Demand Build Service.

The amounts of $50/kWh for the pre-COD period and $70/kWh for the period commencing as of the Commercial Operation Date are generally consistent with security amounts PREPA has recently identified in its review of renewable generation and energy storage agreements that have been executed in circumstances PREPA considers comparable (in particular, with amounts adopted in forms of solar + storage power purchase agreements pending approval in Hawaii). The

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purposes of determining SELLER's liability under this Agreement, the Parties shall deduct the proceeds of insurance received by SELLER (or would have received had SELLER complied with the terms of this Agreement), relating to the event or circumstances which resulted in such liability.

The forms of ESSA and GSA include essentially identical Seller Liability Cap language.

following table summarizes the data points on which PREPA relied in considering a reduction in the required security amounts:

MARKET PRECEDENT	PROJECT DEVELOPMENT SECURITY FACE AMOUNT	COMMERCIAL OPERATION SECURITY FACE AMOUNT
PG&E ESSA	$ 60 per kW of Design D_{max}	Greater of (a) $ 125 per kW x Design D_{max} (kW), and (b) ten percent (10 %) of the sum of the highest estimated Monthly Fixed Payments for any thirty- six (36) month period during the Supply Period
NYISO ESSA	$ 210 per kW of Contract Capacity	(i) during the first Contract Year, the Commercial Operation Payment and (ii) during each subsequent Contract Year, the Commercial Operation Payment minus the product of (y) one-seventh of the amount of the Commercial Operation Payment multiplied by (z) the number of completed Contract Years.
Hawaii Electric Solar PPAs for HELCO-Engie, Barbers Point & Mahi Solar (currently pending regulatory approval)	$ 50 per kW of Contract Capacity	$ 70 per kW of Contract Capacity
EcoElectrica PPOA (signed in 1990s)	N/A	$ 38 per kW of Contract Capacity
Shovel-Ready PPOAs	$ 53-90 per kW of Contract Capacity	$ 30 per kW of Contract Capacity (dated backed to original contracts)

The revised proposed security amount values are also generally consistent with suggestions which a number of participants in the Tranche 1 RFP have made in Requests for Clarifications submitted through PowerAdvocate®.[12] They are intended to impose comparable requirements on all

[12] For example, in asking PREPA to reconsider the security amount values of $575 /kW and $120/kWh, two participants asserted that in their experience those values fluctuate around 30 USD/kW (initial values). Another participant suggested as an alternative a lower level of Proposal Security of $20 - $25 per kW for the PPOA and $5 - $7 per kWh for the ESSA. Yet another participant noted that the most recent revision in PREPA's form of PPOA stipulated a security value of $100/kW.

proponents, regardless of the technology employed or the characteristics of the specific resource (*e.g.*, duration of design discharge in the case of batteries), to facilitate fair comparisons among pricing proposals).

The following table provides examples of the calculation of the pre-COD and post-COD security amounts under a PPOA and an ESSA covering what PREPA considers to be a typical solar photovoltaic project (50 MW capacity) and battery energy storage project (50 MW capacity, 4-hour discharge duration:

PPOA Example					
Solar project Nameplate Capacity	50	MWac			
Pre-COD Security Amount	$50	per kW			
Post-COD Security Amount	$70	per kW			
Pre-COD Security Amount	$2,500,000				
Post-COD Security Amount	$3,500,000				
ESSA Example					
Design Dmax	50	MWac	equal to	50000	kW
Design Dmax Duration	4	hours	equivalent to	200	MWh
Pre-COD Security Amount	$12.50	per kWh			
Post-COD Security Amount	$17.50	per kWh			
Pre-COD Security Amount	$2,500,000				
Post-COD Security Amount	$3,500,000				
Design Dmax	25	MW	equal to	25000	kW
Design Dmax Duration	2	hours	equivalent to	50	MWh
Pre-COD Perf Security	$12.50	per kWh			
Post-COD Perf Security	$17.50	per kWh			
Pre-COD Perf Security	$625,000				
Post-COD Perf Security	$875,000				

Because PREPA cannot yet anticipate what parameters VPP Proponents are likely to propose for Demand Reduction Service and Demand Build Service, and has no basis on which to identify what might be "typical" in this regard, PREPA cannot provide a calculation for security amounts likely to be required under the typical GSA. PREPA would note, however, that assuming the reduced pre-COD ($50) and post-COD ($70) amounts per kW to be employed in the revised GSA Security Amount calculation, VPP Proponents will be required to provide Security Amounts that would be roughly one-tenth of the amounts previously contemplated.

SESA has suggested that the Energy Bureau consider whether the current bid deadline of May 28, 2021 should be postponed, "perhaps by a month."[13] PREPA notes that a total of five participants have included in Requests for Clarification they have submitted through PowerAdvocate® individual requests that additional time be provided for the submission of bids. PREPA has generally noted in response that PREPA cannot extend the bid submission deadline, because the Energy Bureau has established a deadline for the selection of Energy Resources.[14]

PREPA shares the Energy Bureau's views as to the importance of this Tranche 1 RFP process and, like the Energy Bureau, is interested in doing whatever it can to maximize the success of the procurement effort. In this spirit, PREPA believes that SESA's suggestion that additional time be provided to allow potential bidders to integrate recently received information into their bids has merit. PREPA agrees that providing some amount of additional time for the completion of bid submissions is likely to generate greater bidder participation and better bid pricing. Accordingly, **assuming that PREPA will be afforded an identical extension of time to complete its evaluation of bidder submission**, **PREPA would support an extension of time of**

[13] SESA May 19 letter at 2.

[14] *See, e.g.,* PREPA's response to Question No. 28 of RFC Responses No. 006.

twenty-one (21) days from the current deadline of May 28, 2021, or until June 18, 2021, for the submission of bidder responses to the Tranche 1 RFP. PREPA notes that this additional time would permit the evaluation of bids to commence seventeen (17) days *after* the planned June 1, 2021 transition of responsibility for PREPA's transmission and distribution system to LUMA Energy, LLC and LUMA Energy Servco, LLC, rather than just before the transition. Additional time permitting the completion of the reassignment of currently involved PREPA personnel would permit the bid evaluation process to proceed much more efficiently than would be likely with a transition taking place just three days after the current bid submission deadline.

CONCLUSION

WHEREFORE, the Puerto Rico Electric Power Authority respectfully requests the Energy Bureau to consider the responses to SESA's May 19 letter offered above and that, in line with SESA's suggestion, it grant an extension of time of twenty (21) days, to June 18, 2021, for the submission of bidder responses to the Tranche 1 RFP.

RESPECTFULLY SUBMITTED, in San Juan, Puerto Rico, this 24th day of May 2021.

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