REQUEST FOR PROPOSALS No. 128568

Renewable Energy Generation and Energy Storage Resources

Tranche 2 of 6

Puerto Rico Electric Power Authority

DATE SUBMITTED TO PREB: October 15, 2021

DATE ISSUED: [•], 2021

RESPONSES DUE DATE: [•], 2022



CONTENTS

Sect	ion		Page
1.	INTR	INTRODUCTION	
	1.1	Glossary	
	1.1	Purpose of RFP	
	1.2	PREPA and the Transformation of the Electric System	12
	1.4	Historical Context.	
	1.5	Relevant Information and Regulations	
	1.6	Contract Terms and Conditions	14
	1.7	Tranche 2 RFP Scope of Supply	15
	1.8	General Requirements	
	1.9	VPP Specific Requirements	16
	1.10	Interconnection Requirements	
	1.11	Title III Status	20
	1.12	Local Participation	22
	1.13	Capacity Assessment of Co-Located Energy Resources	
2.	INST	RUCTIONS TO PROPONENTS	23
	2.1	Communications	22
	2.1	Addende	23
	2.2	Addenda	24
	2.5	Kick Off Presentation	24 26
	2.4	Notice of Intent to Despend & Non Disclosure Agreement	20 26
	2.5	Rouce of Intent to Respond & Non-Disclosure Agreement	20 26
	2.0	Contract Exceptions	20 27
	2.7	Final Proposal Version of Contracts	27 27
	2.0	Designation of Resource Provider	27 27
	2.7	Deadline and Method for Submitting Proposals	27 28
	2.10	Confidentiality of Responses & Proprietary Information	20 30
	2,11	Confidentiality of Responses & Proprietary Information	
3.	PROF	PONENT QUALIFICATION REQUIREMENTS	
	3.1	Qualification Requirements	
	3.2	Minimum Eligibility Requirements	31
4.	SOQ	SUBMISSION REQUIREMENTS	34
	41	Introduction	34
	4.2	Section One: Executive Summary	34
	43	Section Two: Corporate Structure	35
	4.4	Section Three: Technical and Operational Canability	
	4.5	Section Four: Financial Capability	
		1	

	4.6	Section Five: Other Criteria & Additional Capability	
	4.7	Section Six: Timeline	
	4.8	Section Seven: Safety Performance	
	4.9	Section Eight: Project Development Summary	
5.	PRO	POSAL SUBMISSION REQUIREMENTS	
	5.1	Proposal Organization	
	5.2	Proposal Content	
	5.3	Disqualification of Proposals	42
	5.4	Restricted Parties	44
6.	PRO	POSED PROJECT EVALUATION	45
	6.1	Phase I: Quality Control Review	45
	6.2	Phase II: Project Committee Review and Recommendation	46
	6.3	Phase III: Interconnection Evaluation & Contract Documentation	51
	6.4	Proposal Data Forms	53
	6.5	[Intentionally Omitted]	54
	6.6	Proposal Security	54
	6.7	Ownership / Control of Site	55
	6.8	Reservation of Rights	55
	6.9	Disclosure of Proposals	56
		▲	

APPENDICES

A. Form of Notice of Intent to Respond
B. Form of Request for Clarification
C. Form of Proposal Completeness Checklist
D. Proposal Data Forms
E. Form of Non-Disclosure Agreement65
F. Form of Solar PPOA71
G. Form of ESSA for Standalone Energy Storage Resources
H. Form of Irrevocable Stand-By Letter of Credit
I. Minimum Technical Requirements (MTR)78
J. Interconnection Data Request Forms
K. Interconnection Locations with Conditionally Available Capacity
L. Puerto Rico Electricity Sector Transformation
M. PowerAdvocate® Guide
N. Kick-off Meeting Presentation
O. Forms of Certificate for Minimum Eligibility Requirements
P. Form of Bid Bond
Q. Form of Grid Services Agreement
R. Form of ESSA for ITC Compliant Energy Storage Resources
S. Form of Site Control Certificate
T. Holidays

TABLES

	Page
Table 2-1 - Milestone Schedule	25
Table 2-2 - PowerAdvocate® Tabs	29
Table 3-1 - Minimum Eligibility Requirements	32
Table 4-1 - SOQ Format	34
Table 6-1 - Qualitative Evaluation	49
Table 6-2 - Phase II Evaluation Scoring	51

DISCLAIMER

The Puerto Rico Electric Power Authority has prepared this Request for Proposals for informational purposes only and delivery to parties who may have an interest in pursuing a potential transaction as further described herein. This Request for Proposals does not purport to be all-inclusive or to contain all the information that a Proponent (as defined herein) may desire in investigating a potential transaction. The Puerto Rico Electric Power Authority does not make any express or implied warranty as to the accuracy or completeness of the information contained herein or otherwise made available in connection with further investigations by the recipient.

1. INTRODUCTION

1.1 Glossary

Unless the context otherwise requires, in this RFP:

"2019 RSA" has the meaning given in paragraph (c) of Section 1.11 (*Title III Status*);

"9019 Motion" has the meaning given in paragraph (c) of Section 1.11 (*Title III Status*);

"Act 17" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"Act 57-2014" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"Act 82-2010" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"Act 120" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"Act 211-2018" means the Act for the Execution of the Reorganization Plan of the Puerto Rico Public Service Regulatory Board, Act No. 211-2018;

"AAFAF" means the Autoridad de Asesoria Financiera y Agencia Fiscal de Puerto Rico;

"Affiliate" means, with respect to any specified Person, any other Person that directly or indirectly, through one or more intermediaries, Controls (e.g., has the status of a parent or grandparent company), is Controlled by (e.g., has the status of a subsidiary) or is under common Control (e.g., has the status of sister company) with such specified Person;

"**Applicable Law**" means any law (including statutory and common law), statute, constitution, decree, judgment, treaty, regulation, rule, by-law, order, other legislative measure, directive, requirement or guideline of, or made by, any Authority;

"Authority" means any national, regional or local government or governmental, administrative, fiscal, judicial, or government-owned body, department, commission, authority, tribunal, agency or entity;

"Bankruptcy Code" the United States Bankruptcy Code, 11 U.S.C. 101 et seq., as amended;

"Best and Final Offer" has the meaning given in Section 6.3 (*Phase III: Interconnection Evaluation & Contract Documentation*);

"Best and Final Offer LCOE" means, for each Selected Proposal for a Renewable Energy Resource, the LCOE calculated based on the applicable variables submitted by the Proponent in its Best and Final Offer for such proposal, inclusive of PREPA's Estimated Costs;

"Best and Final Offer LCOS" means, for each Selected Proposal for an Energy Storage Resource, the LCOS calculated based on the applicable variables submitted by the Proponent in its Best and Final Offer for such proposal, inclusive of PREPA's Estimated Costs;

"Best Interest Determination" has the meaning given in Section 6.3 (*Phase III: Interconnection Evaluation & Contract Documentation*);

"Bid Expiration Date" has the meaning given in Section 6.6 (*Proposal Security*);

"**Business Day**" means a Day other than (i) a Saturday, a Sunday or a Day on which Applicable Law requires or authorizes commercial banks in San Juan, Puerto Rico to close, or (ii) any other Day recognized as a holiday by PREPA as listed on Appendix T (*Holidays*) hereto or notified to Proponent from time to time;

"**Charging Energy**" means the Energy received into, and stored in, an Energy Storage Resource for later discharge into the T&D System;

"COD" means, for any Energy Resource, the date on which such resource commences commercial operation;

"**Co-Located Integrated Resources**" means a Renewable Energy Resource co-located with an Energy Storage Resource which collectively makes available Energy for dispatch by the T&D Operator on a fully-integrated basis through a single electric interconnection with the Transmission System;

"**Co-Located Standalone Resources**" means a Renewable Energy Resource co-located with an Energy Storage Resource which (i) makes available energy storage services and Energy for dispatch by the T&D Operator independently through two (2) separate electrical interconnections with the Transmission System, and (ii) sources charging Energy for the Energy Storage Resource exclusively from the Transmission System;

"**Co-Located ITC Compliant Resources**" means an Energy Storage Resource co-located with a Renewable Energy Resource which (i) makes available energy storage services and Energy for dispatch by the T&D Operator independently through two (2) separate electrical interconnections with the Transmission System, and (ii) sources charging Energy for the Energy Storage Resource from (A) for purposes of complying with the ITC Renewable Energy Charging Requirement during the ITC Period, the Renewable Energy Resource, and (B) the Transmission System;

"**Confidential Information**" has the meaning given in Section 2.11 (*Confidentiality of Responses & Proprietary Information*);

"**Contract**" means a PPOA, an ESSA for Standalone Energy Storage Resources, an ESSA for ITC Compliant Energy Storage Resources or a Grid Services Agreement (as applicable);

"Contract Documentation Process" has the meaning given in Section 6.3 (*Phase III: Interconnection Evaluation & Contract Documentation*);

"Contract Exceptions" has the meaning given in Section 2.7 (Contract Exceptions);

"**Contract Exceptions Deadline**" means the date that corresponds to the same term set forth in Table 2-1 (*Milestone Schedule*);

"**Control**" means (i) the ownership (whether directly or indirectly) of more than fifty percent (50%) of the total issued voting share capital or other voting interest of that company or corporation, or (ii) the ability to unilaterally appoint a majority of the board directors or equivalent body of that company or corporation through the ownership of securities with voting power or otherwise, without the need of the vote or approval of another, or (iii) the ability to otherwise unilaterally direct the business affairs and/or operations of that company or corporation, without the need of the vote or approval of another and the terms "**Controls**", "**Controlled**" and "**Controlling**" shall have correlative meanings. For the avoidance of doubt, a company or corporation owned by two (2) shareholders each holding exactly fifty percent (50%) of the total issued and outstanding shares shall not be considered under the control of each shareholder;

"**December 8 Energy Bureau Order**" means Resolution and Order of the Energy Bureau in Case No. NEPR-MI-2020-0012, dated December 8, 2020;

"**Demand Response**" means the ability to change utility-supplied electric usage by end-use customers from their normal consumption patterns in response to changes in the price of electricity during a day and/or season or other economic compensation designed to induce change in the use of utility-supplied electricity, facilitating the balance by the T&D Operator of supply and demand for Energy;

"**Demand Response Regulation**" means the Energy Bureau Regulation for Energy Efficiency and Demand Response issued under Case No. NEPR-MI-2019-0015 on December 10, 2020;

"**Demand Response Resource**" means an aggregation of end-use customers, connected to the Distribution System, that collectively participate in a Demand Response program of at least 50 kW, established by a DR Aggregator;

"Distributed Energy Storage VPP" means any VPP which (i) makes available Energy Storage Resource(s) with an aggregate power discharge capacity of at least five (5) MW continuously over a minimum duration range from two (2) to four (4) hours, and (ii) sources Charging Energy from Renewable Energy Resource(s), located (together with such Energy Storage Resources) within a geographical area that forms, or may eventually form, part of a microgrid or part of a single-site distributed resiliency solution, as contemplated by Section II(6) of Appendix A of the December 8 Energy Bureau Order;

"**Distribution System**" means the network of distribution lines interconnected at voltages below 38 kV and associated electric substations owned by PREPA, which distribute electricity to endusers in the Commonwealth of Puerto Rico;

"dollars" and "\$" means United States dollars;

"**DR** Aggregator" has the meaning given to the term "Demand Response Aggregator" in the Demand Response Regulation;

"Energy" means three-phase, 60-cycle AC electric energy;

"Energy Bureau" means the Puerto Rico Energy Bureau of the Puerto Rico Public Service Regulatory Board, a specialized independent entity in charge of regulating, supervising, and enforcing the energy public policy of the Government of Puerto Rico, created by Act 57-2014, as amended and renamed and reorganized by virtue of the Reorganization Plan of the Puerto Rico Public Service Regulatory Board and Act 211-2018, formerly known as the Puerto Rico Energy Commission;

"**Energy Resource**" means a Renewable Energy Resource, Energy Storage Resource, Distributed Energy Storage VPP or other VPP, as applicable;

"Energy Storage Resource" means a battery energy storage system or any other form of energy storage system that satisfies the requirements of the applicable MTR;

"Energy Storage Services Agreement" or **"ESSA"** means an agreement, which sets forth the terms and conditions under which a Resource Provider sells, and PREPA purchases, Energy Storage Resource capacity and related attributes;

"**Facility Study**" means for each proposal selected by PREPA for Phase III, an engineering study to determine required modifications to the T&D System, including the cost and scheduled completion date for such modifications, required to provide grid support services needed to integrate the proposed project into the T&D System;

"**Feasibility Study**" means, for each proposal selected by PREPA for Phase II, a study of the feasibility of such proposal, including the interconnection of the proposed project with the T&D System;

"Final Proposal Version of Contract" has the meaning given in Section 2.8 (*Final Proposal Version of Contracts*);

"Final Resolution" has the meaning given in Section 1.2 (*Purpose of RFP*);

"Financial and No Disbarment Criteria" has the meaning given to it in Section 3.2 (*Minimum Eligibility Requirements*);

"First Non-Refundable Fee" has the meaning given to it in Section 1.10 (Interconnection Requirements);

"FOMB" means the Financial Oversight & Management Board for Puerto Rico;

"GENCO Operator" has the meaning given in Section 1.3 (*PREPA and the Transformation of the Electric System*);

"Grid Services Agreement" or "GSA" means an agreement with a Proponent of a VPP that establishes the terms and conditions under which the Proponent sells, and PREPA purchases, Energy Resource capacity and related attributes and services furnished by such VPP;

"**Imputed Estimated Interconnection Costs**" means PREPA's estimated, pre-bid submission, all-in cost to design, supply, install, test and commission the PREPA Interconnection Facilities and T&D System upgrades for a Utility-Scale Resource, equal to \$ 3,000,000;

"IPPs" has the meaning given to it in paragraph (e) of Section 1.11 (Title III Status);

"IRP" has the meaning given in Section 1.2 (Purpose of RFP);

"**ITC Period**" means, for any Co-Located ITC Compliant Resource, the period that commences on COD for such resource and expires on the date when the ITC Renewable Energy Charging Requirement terminates or expires under Applicable Law;

"ITC Renewable Energy Charging Requirement" means the requirement under Treasury Regulations § 1.48-9(d)(6) that a storage device derive not more than a specified percentage of its charging energy from sources other than solar energy to qualify for (or to avoid recapture of) the investment tax credit available for "energy property" under Internal Revenue Code § 48(a)(3)(i);

"**kV**" means kilovolts;

"kWh" means kilowatt-hours;

"Land Option Agreement" means, for any parcel of land, an agreement under which the registered title holder of such parcel has granted the Proponent or the Resource Provider an option to purchase or lease such parcel upon the award by PREPA of a Contract for the implementation of a proposed project in form and substance reasonably satisfactory to PREPA;

"LCOE" means, for a Renewable Energy Resource, the levelized cost of energy, expressed in dollars per kWh, calculated in accordance with the following formula:

$$LCOE = \frac{\text{sum of costs over lifetime}}{\text{sum of electrical energy produced over lifetime}} = \frac{\sum_{t=1}^{n} \frac{P_t}{(1+r)^t}}{\sum_{t=1}^{n} \frac{E_t}{(1+r)^t}}$$

where:

P_t	=	the forecasted aggregate amount, expressed in dollars, payable by PREPA for year
		t assuming a P50 Energy Yield during such year;
E_t	=	the P50 Energy Yield for year t, expressed in kWh;
r	=	Discount rate of 0.09 as used in the IRP;
n	=	Number of years during the Supply Period; and
t	=	any year during the Supply Period.

"LCOS" means, for an Energy Storage Resource or VPP, the levelized cost of energy storage capacity, expressed in dollars per kWh, calculated in accordance with the following formula:

$$\frac{\text{sum of costs over lifetime}}{\text{sum of electrical energy discharged over lifetime}} = \frac{\sum_{t=1}^{n} \frac{P_t}{(1+r)^t}}{\sum_{t=1}^{n} \frac{E_t}{(1+r)^t}}$$

where:

\boldsymbol{P}_t	=	the forecasted aggregate amount, expressed in dollars, payable by PREPA for year	
		t, assuming three hundred and sixty-five (365) discharge cycles per year;	
\boldsymbol{E}_t	=	total Discharge Energy for year t, assuming three hundred and sixty-five (365)	
		cycles per year;	
r	=	Discount rate of 0.09 as used in the IRP;	
n	=	Number of years during the Supply Period; and	
t	=	any year during the Supply Period.	

"Lead Member" means, for any Proponent consortium, the lead member of such consortium that has the power to act for and on behalf, and legally bind, each of the Other Members, of such consortium on all matters related to this RFP, including the execution and delivery of a Contract;

"LUMA" has the meaning given in Section 1.3 (*PREPA and the Transformation of the Electric System*);

"Milestone Schedule" has the meaning given in Section 2.3 (Milestone Schedule);

"**Minimum Amount**" means, for any Proponent, an amount equal to the greater of (i) thirty percent (30%) of the estimated costs of such Proponent's proposed project, and (ii) seventy-five million dollars (\$75,000,000);

"MTR" has the meaning given in Section 1.2 (Purpose of RFP);

"**MW**" means megawatts;

"**MWh**" means megawatt-hours;

"Net Capacity" means the contracted capacity measured at the Interconnection Point;

"No Disbarment Certification" has the meaning given in Table 3-1 (*Minimum Eligibility Requirements*);

"Non-Disclosure Agreement" or "NDA" means, for each Proponent, a completed version of an agreement in the form set forth in Appendix E (*Form of Non-Disclosure Agreement*), duly-executed by an authorized representative of such Proponent or each member of a Proponent consortium;

"Notice of Intent to Respond" means, for each Proponent, a completed version of the form set forth in Appendix A (*Form of Notice of Intent to Respond*), duly-executed by an authorized representative of such Proponent or Proponent consortium;

"**Operating Procedures**" means the procedures to be followed in order to integrate the Energy Resource into the T&D System;

"Other Members" means, for any Proponent consortium, all of the members of such consortium other than the Lead Member;

"P3A" means the Puerto Rico Public-Private Partnerships Authority, or any successor thereto;

"P50 Energy Yield" means, for any period of time, an estimate of the net electrical output, expressed as kWh, that the proposed facility can deliver to the T&D System with a probability of occurrence of fifty percent (50%) for such period, other than during any period of scheduled outages, based on the forecasted ambient conditions at the site during such period;

"**Performance Security**" has the meaning given in the relevant Final Proposal Version of Contract;

"**Permitted Guarantor**" means, for any Resource Provider, any Person that (i) directly or indirectly holds an ownership interest of at least twenty-five percent (25%) in such Resource Provider and (ii) satisfies the financial capability requirement set forth in paragraph (a) of Section 4.5 (*Section Four: Financial Capability*);

"**Person**" means an individual, a corporation, a partnership, a limited liability company, a joint venture or other form of legal entity;

"**Phase I**" means the first phase of the proposal evaluation process, as further described in Section 6.1 (*Phase I: Quality Control Review*);

"**Phase II**" means the second phase of the proposal evaluation process, as further described in Section 6.2 (*Phase II: Project Committee Review and Recommendation*);

"**Phase III**" means the third phase of the proposal evaluation process, as further described in Section 6.3 (*Phase III: Interconnection Evaluation & Contract Documentation*);

"**Power Purchase and Operating Agreement**" or "**PPOA**" means an agreement that sets forth the terms and conditions under which a Proponent sells, and PREPA purchases, Energy produced by one or more Renewable Energy Resources;

"PPP Act" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"PPP Regulation" has the meaning given in Section 1.5 (Relevant Information and Regulations);

"**PREPA**" means the Puerto Rico Electric Power Authority, a public corporation and governmental instrumentality of the Commonwealth of Puerto Rico, created pursuant to Act 83 of May 2, 1941, as amended;

"PREPA's Account" means the following bank account:

Account Name: [•]

Account Number: [•]

Bank Name:	[•]
Bank Address:	[•]
Swift Code:	[•]

"PREPA's Estimated Costs" has the meaning given in Section 1.10 (Interconnection Requirements);

"PROMESA" has the meaning given in Section 1.11 (*Title III Status*);

"**Proponent's Proposed Execution Version of Contract**" means, for any proposal selected by PREPA for Phase II evaluation, an updated version of the relevant Final Proposal Version of Contract for such proposal, revised only to reflect the identity of the Resource Provider / Permitted Guarantor (if applicable) as well as the site, type of Energy Resource, contract capacity / maximum dispatch limit (as applicable), performance parameters of the proposed resource, price and other technical details specified in such proposal, which (i) the Proponent proposes to include in the execution version of such Contract, if PREPA selects such proposal for Phase III evaluation, and (ii) do not alter the substantive provisions of such Final Proposal Version of Contract in any material way;

"**Proponent**" means (i) any Person, or (ii) a consortium of Persons, in each case that submit(s) a Notice of Intent to Respond and NDA to PREPA in accordance with Section 2.5 (*Notice of Intent to Respond & Non-Disclosure Agreement*);

"Proposal Completeness Checklist" means the form set forth in Appendix C (*Form of Proposal Completeness Checklist*);

"**Proposal Security**" means either (i) an irrevocable stand-by letter of credit, substantially in the form set forth in Appendix H (*Form of Irrevocable Stand-By Letter of Credit*), issued by a Qualified Bank, or (ii) a bid bond substantially in the form set forth in Appendix P (*Form of Bid Bond*), issued by an insurance company, authorized to do business in Puerto Rico;

"**Proposal Submission Deadline**" means the date that corresponds to the same term set forth in Table 2-1 (*Milestone Schedule*);

"**Purchased Fuel Payments**" or "**PFP**" has the meaning given in paragraph (e) of Section 1.11 (*Title III Status*);

"**Purchased Power Payments**" or "**PPP**" has the meaning given in paragraph (e) of Section 1.11 (*Title III Status*);

"Qualified Bank" means a national bank, national association, commercial bank or other financial institution registered in the United States, having a branch located within Puerto Rico or the contiguous United States, and otherwise acceptable to PREPA that has a long-term issuer rating of at least (i) if headquartered within Puerto Rico, then "B+" by Standard & Poor's Ratings Services, "B1" by Moody's Investors Services Inc., or "B+" by Fitch Ratings Inc. or (ii) if headquartered outside of Puerto Rico, then "A-" by Standard & Poor's Ratings Services, "A3" by

Moody's Investors Services Inc., or "A-" by Fitch Ratings Inc., or in each case if the relevant rating agencies cease to engage in business or rate the obligations in question, then an equivalent rating from another internationally recognized rating agency selected by Proponent with the written consent of PREPA; provided that, if such financial institution's ratings satisfy such minimum ratings, no other credit rating agency shall have placed such financial institution on credit watch with negative implications;

"Rate-Payers" has the meaning given in paragraph (e) of Section 1.11 (*Title III Status*);

"Rate-Payer Tariff" has the meaning given in paragraph (e) of Section 1.11 (Title III Status);

"Reference Project" has the meaning given in Table 3-1 (Minimum Eligibility Requirements);

"**Regulation 8915**" means PREPA Regulation 8915 – Reglamento para Interconectar Generadores con el Sistema de Distribución Eléctrica de la Autoridad y Participar en los Programas de Medición Neta (*Regulation for Interconnecting Generators with the Authority's Electrical Distribution System and Participate in the Net Metering Programs*) approved by the Secretary of State on February 6, 2017;

"**Regulation 8916**" means PREPA Regulation 8916 – Reglamento para Interconectar Generadores con el Sistema de Transmisión o Subtransmisión Eléctrica de la Autoridad de Energía Eléctrica y Participar en los Programas de Medición Neta (*Regulation for Interconnecting Generators with the Authority's Electric Transmission or Subtransmission System and Participate in the Net Metering Programs*) approved by the Secretary of State on February 6, 2017;

"**Release Date**" means, for any Contract, the earlier to occur of (i) the date on which the Resource Provider has discharged all of its payment obligations arising under such Contract prior to COD in full, and (ii) the date on which such Resource Provider demonstrates to PREPA's reasonable satisfaction that the direct shareholders of such Resource Provider have contributed an aggregate amount of equity in cash to such Resource Provider in exchange for the issuance of shares in such Resource Provider of at least the Minimum Amount;

"**Renewable Energy Resource**" means any renewable energy resource that qualifies as "green energy" under Act 82-2010, including, but not limited to, solar PV generating facilities, wind generating facilities, hydroelectric generating facilities or any combination of these technologies;

"**Request for Clarification Submittal Deadline**" means the date that corresponds to the same term set forth in Table 2-1 (*Milestone Schedule*);

"**Request for Proposals**" or "**RFP**" means this Request for Proposals No. [•], Renewable Energy Generation and Energy Storage Systems – Tranche 2 as amended by all addenda issued by PREPA, relating to such request for proposals;

"Resource and Technology Group" has the meaning given in paragraph (a) of Section 6.2 (*Phase II: Project Committee Review and Recommendation*);

"**Resource Provider**" has the meaning set forth in Section 2.9 (*Designation of Resource Provider*);

"Restricted Parties" has the meaning given in Section 5.4 (Restricted Parties);

"Second Non-Refundable Fee" has the meaning given in Section 1.10 (Interconnection Requirements);

"SOQ" has the meaning given in Section 1.8 (General Requirements);

"System Impact Study" means for each proposal selected by PREPA for advancement to Phase III, a study that will, at a minimum, (i) determine the power capabilities of the major interconnection equipment required to complete the interconnection facilities, (ii) specify the maximum fault currents necessary to specify short circuit duty and interrupting ratings, (iii) approve or disapprove generator step-up (GSU) transformer impedance and transformer tap ranges necessary for proper control of voltage and reactive power flow, (iv) quantify impact to the T&D System and the actions and costs required to mitigate such impact, (v) designate the T&D Operator dispatching centers that will coordinate the operation of the facility, and (vi) specify the proposed design requirements for the facility and the interconnection facilities;

"**T&D Operator**" has the meaning given in Section 1.3 (*PREPA and the Transformation of the Electric System*);

"T&D System" means the Transmission System and the Distribution System;

"Team Member" has the meaning given in paragraph (k) of Section 4.3 (*Section Two: Corporate Structure*);

"Testing Protocols" means PREPA's standard protocols for testing and commissioning the applicable Energy Resource, comprising steps for establishing (i) an indication of the date, time and duration of the tests; (ii) the procedure for specific tests, including tests related to the applicable MTR compliance and reliable operation; (iii) the success or failure criteria for the tests; and (iv) the system for documenting the results of the tests;

"Title III Court" has the meaning given in paragraph (b) of Section 1.11 (*Title III Status*);

"Tranche" has the meaning given in Section 1.2 (Purpose of RFP);

"**Transmission System**" means the network of transmission lines interconnected at 38 kV or above and associated electric substations owned by PREPA, which transmit electricity to the Distribution System;

"**Unrestricted Net Worth**" means, for any Person, the sum of (i) the subscribed and paid-up equity (including additional paid-in capital), and (ii) the Unrestricted Retained Earnings, in each case of such Person;

"Unrestricted Retained Earnings" means, for any Person, the amount of accumulated profits and gains realized out of the normal and continuous operations of such Person after deducting distributions to stockholders and transfers to capital stock or other accounts, and which is (i) not appropriated by its board of such Person for corporate expansion projects or programs; (ii) not covered by a restriction for dividend declaration under a loan agreement; (iii) not required to be

retained under special circumstances obtaining in such Person such as when there is a need for a special reserve for probable contingences; and (iv) not otherwise covered by any other legal restriction (which refers to any injunction, judgement, or order issued by any judicial Authority) on the ability of such Person to distribute or otherwise apply its equity;

"Unsatisfactory Performance" means (i) for each Energy Resource designated as a Reference Project for which a Proponent or its Affiliate has commenced the development or commercial operation; and (ii) for each VPP designated as a Reference Project for which a Proponent or its Affiliate has commenced performance under its power or grid services agreement, in each case within the past three (3) years, the failure by such Proponent or Affiliate to (A) perform a material obligation arising out of a contract, or (B) satisfy a material condition of an authorization or license, in each case relating to such Reference Project;

"Utility-Scale Resource" means an Energy Resource other than a VPP;

"**VPP**" means a combination of (i) an Energy Storage Resource, and (ii) one or more Energy Storage Resources, Renewable Energy Resources or Demand Response Resources with an aggregated Net Capacity of at least five (5) MW over a minimum duration range from two (2) to four (4) hours, measured at each of the five or more points of interconnection (limited to one (1) MW each) with the Distribution System, which a Proponent aggregator or its agent assembles, registers, contracts to call upon and control, monitors, controls and makes available for direct or indirect dispatch by the T&D Operator through a software-based central control system in accordance with the terms of a Grid Services Agreement;

"Weighted-Average LCOE" means the weighted average of the lowest LCOE proposals for Renewable Energy Resources selected for Phase II evaluation, with an aggregate capacity of 500 MW, being PREPA's procurement target for Renewable Energy Resource capacity under this RFP; and

"Weighted-Average LCOS" means the weighted average of the lowest LCOS proposals for Energy Storage Resources selected for Phase II evaluation, with an aggregate capacity of 250 MW, being PREPA's procurement target for Energy Storage Resource capacity under this RFP.

1.2 **Purpose of RFP**

This RFP solicits proposals for (i) the design, construction, installation, ownership, operation and maintenance of Energy Resources, installed at sites across the island of Puerto Rico, and (ii) the sale and purchase of Energy or capacity, made available by such resources, during a supply period of up to twenty-five (25) years. Energy Resources must comply with the applicable minimum technical requirements set forth in Appendix I (*Minimum Technical Requirements (MTR*)) (the "**MTR**").

This RFP represents the second of six (6) tranches (each, a "**Tranche**") of request for proposals that PREPA intends to issue in accordance with the IRP, the Final Resolution and the December 8 Energy Bureau Order, which requires the procurement by PREPA of a cumulative total of 3,750 MW of Renewable Energy Resources and 1,500 MW of Energy Storage Resources during a three (3) year period. PREPA issued the Request for Proposals, Renewable Energy Generation and Energy Storage Systems – Tranche 1 on February 22, 2021 and will continue to administer such

request for proposals. PREPA has issued, and will administer, this RFP as well as the requests for proposals covering Tranche 2.

Act 82-2010, as amended by Act 17, directs PREPA to procure Renewable Energy Resources in accordance with the following milestones relative to the aggregate percentage of generation supplying its system: twenty percent (20%) by 2022, forty percent (40%) by 2025, sixty percent (60%) by 2040, and one hundred percent (100%) by 2050. In order to achieve the established targets, PREPA seeks Energy Resources that can achieve commercial operation in no more than twenty-four (24) months from the date on which a selected Proponent executes a Contract, with preference given to those proposals that can achieve commercial operation within a shorter timeframe.

The Energy Bureau issued its final Resolution and Order on PREPA's Integrated Resource Plan ("**IRP**") in Case No. CEPR-AP-2018-0001 on August 24, 2020 (the "**Final Resolution**"). In the Final Resolution, the Energy Bureau approved a modified preferred resource plan and a modified action plan, which PREPA will follow over the next five (5) years for the procurement of new Energy Resources and the retirement of many of its fossil-fueled generating units. In addition, on December 8, 2020, the Energy Bureau issued the December 8 Energy Bureau Order in which it directed PREPA to use every effort to comply with the IRP, modified preferred resource plan and modified action plan approved in the Final Resolution and to achieve the forty percent (40%) renewable energy generation target for 2025 as required by Act 82-2010, as amended by Act 17. The Energy Bureau also ordered PREPA to implement a Procurement Plan and develop a request for proposals template in accordance with the December 8 Energy Bureau Order.

1.3 PREPA and the Transformation of the Electric System

PREPA, which will serve as the initial contracting party in connection with this RFP, has the duty of providing electric power in a reliable manner, contributing to the general welfare and the sustainable future of Puerto Rico, maximizing the benefits and minimizing the social, environmental, and economic impacts. PREPA provides electricity to approximately 1.5 million customers, making it one of the largest public utilities in the United States by customers served. With nearly 6,000 employees, PREPA generates approximately \$ 3.5 billion in annual revenues.

On January 22, 2018, the Governor of Puerto Rico announced his intent to transform and modernize PREPA's electric system through private ownership or operation of PREPA's assets. On June 20, 2018, the Governor of Puerto Rico signed into the law Act 120, with the stated goal of transforming Puerto Rico's energy system into a modern, sustainable, reliable, efficient, cost-effective, and resilient one. On June 22, 2020, P3A announced the selection of LUMA Energy, LLC ("LUMA") to operate, maintain and modernize the T&D System for fifteen (15) years through a public-private partnership. LUMA assumed the role of "T&D Operator" of the T&D System on June 1, 2021. As part of the transformation process, PREPA will assign all Contracts awarded pursuant to this RFP to an Affiliate of PREPA. P3A separately issued a request for qualifications in August 2020 from potential bidders to operate and maintain PREPA's legacy thermal generation assets. The selected bidder or bidders (the "GENCO Operator") will provide these services upon closing of the transaction. Appendix L (*Puerto Rico Electricity Sector Transformation*) depicts the structural changes of the electric system upon the closing of the transformation transactions with the T&D Operator and the GENCO Operator.

1.4 Historical Context

In September 2017, Hurricane Irma and Hurricane María made landfall in Puerto Rico. Irma made landfall as a Category 5 storm, followed two (2) weeks later by María which made landfall as a Category 4 storm. The hurricanes caused massive infrastructure damage, private property damage and loss of life.

On September 5 and 17, 2017, the Governor of Puerto Rico requested separate federal declarations of emergency and disaster for Puerto Rico, which were approved by the President of the United States. On October 26, 2017, the President of the United States signed the Additional Supplemental Appropriations for Disaster Relief Requirements Act 2017, which provided \$36.5 billion in FY 2018 of emergency supplemental appropriations for Puerto Rico in connection with Irma and María disaster recovery efforts.

Prior to the impact of Irma and María, Puerto Rico already had an inherently deficient energy infrastructure. In particular, the planning, design, and operation of an isolated island-based electricity system imposes on PREPA significant challenges with respect to system stability and reliability. Puerto Rico's sensitivity to system load variations and significant system frequency fluctuations can trigger under frequency load shedding within seconds of generation outages or the activation of transmission system contingencies.

1.5 **Relevant Information and Regulations**

PREPA encourages interested Proponents to review the following documents which provide further technical background:

a. The IRP:

https://aeepr.com/es-pr/QuienesSomos/Paqinas/ley57/Plan-Integrado-de-Recursos.aspx

b. The Energy Bureau Final Resolution on the IRP:

https://energia.pr.qov/wp-content/uploads/2020/08/AP20180001-IRP-Final-Resolution-and-Order.pdf

c. The December 8 Energy Bureau Order:

https://energia.pr.gov/wp-content/uploads/sites/7/2020/12/Resolution-and-Order-NEPR-MI-2020-0012.pdf

PREPA also encourages Proponents to review the following documents, which are available for download at <u>http://www.p3.pr.gov</u> or <u>https://energia.pr.gov/en/laws</u>, for further background and the legal framework:

- a. PREPA Organic Act, Act No. 83-1941, as amended;
- b. Public-Private Partnership Authority Act, Act No. 29-2009, as amended (the "**PPP Act**");

- c. Regulation for the Procurement, Evaluation, Selection, Negotiation and Award of Participatory Public-Private Partnerships Contracts under Act No. 29-2009, as amended (the "**PPP Regulation**");
- d. Puerto Rico Energy Transformation and RELIEF Act, Act No. 57-2014 ("Act 57-2014"), as amended;
- e. PREPA Revitalization Act, Act No. 4-2016, as amended;
- f. Law for Diversification through Sustainable and Alternative Energy in Puerto Rico, Act No. 82-2010, as amended ("Act 82-2010");
- g. Puerto Rico Green Energy Incentives Act, Act 83-2010;
- h. Puerto Rico Electric System Transformation Act, Act No. 120-2018, as amended ("Act 120");
- i. Puerto Rico Energy Public Policy Act, Act No. 17-2019 ("Act 17");
- j. Regulation 8915; and
- k. Regulation 8916.

Proponents should carefully review Act 120, the PPP Act and the PPP Regulation (each available at: <u>http://www.p3.pr.gov</u> or <u>https://energia.pr.gov/en/laws</u>), as well as Act 17 (available at: <u>https://energia.pr.gov/wp-content/uploads/sites/7/2019/05/Act-17-2019.pdf</u>), and should ensure that, in addition to the terms and conditions of this RFP, they comply with all applicable provisions set out therein.

1.6 **Contract Terms and Conditions**

The Resource Provider designated by a Proponent of a proposal for the development of a Renewable Energy Resource, if selected by PREPA, will enter into a PPOA with PREPA, which will govern the terms and conditions under which such Resource Provider shall sell, and PREPA shall purchase, Energy for the supply term under the PPOA. Appendix F (*Form of Solar PPOA*) sets forth a preliminary template version designed for solar PV generation resource proposals. To the extent that a Proponent intends to submit a proposal for a Renewable Energy Resource other than solar PV technology, PREPA will develop and issue a PPOA template that accommodates such other resource as part of the package of documents representing the Final Proposal Version of Contracts.

The Resource Provider designated by a Proponent of a proposal for the development of Co-Located Integrated Resources selected by PREPA shall enter into a PPOA for the sale and purchase of Energy, ancillary services and related attributes. The Resource Provider designated by a Proponent of a proposal for the development of Co-Located Standalone Resources, selected by PREPA, shall enter into (i) a PPOA for the sale and purchase of Energy, ancillary services and related attributes made available by the Renewable Energy Resource component, and (ii) an ESSA for the sale and purchase of energy storage services and related attributes, made available independently by the Energy Storage Resource component, in each case as set forth in such proposal.

The Resource Provider designated by a Proponent of a proposal for the development of Co-Located ITC Compliant Resources selected by PREPA shall enter into (i) a PPOA for the sale and purchase of Energy, ancillary services and related attributes made available by the Renewable Energy Resource component, and (ii) an ESSA for the sale and purchase of energy storage services and related attributes, made available independently by the Energy Storage Resource component, in each case as set forth in such proposal. Appendix R (*Form of ESSA for ITC Compliant Energy Storage Resources*) sets forth a preliminary template version.

The Resource Provider designated by a Proponent of a proposal for the development of an Energy Storage Resource on a purely standalone basis (i.e., without co-location or integration with another Energy Resource) selected by PREPA will enter into an ESSA with PREPA, which will govern the terms and conditions under which such Resource Provider sells, and PREPA purchases, energy storage services and related attributes for the supply period of the Contract. Appendix G (*Form of ESSA for Standalone Energy Storage Resources*) sets forth a preliminary template version.

The Resource Provider designated by a Proponent of a proposal for the development of a VPP selected by PREPA will enter into a Grid Services Agreement with PREPA, which will govern the terms and conditions under which such Resource Provider shall sell, and PREPA shall purchase, Energy Resource capacity and related attributes for the supply period. Appendix Q (*Form of Grid Services Agreement*) sets forth a preliminary template version.

In addition to the execution and delivery by a Resource Provider of a Contract with PREPA and to the extent that such Resource Provider does not meet the financial capability requirement set forth in paragraph (a) of Section 4.5 (*Section Four: Financial Capability*), the Proponent that designated such Resource Provider shall arrange for a Permitted Guarantor to deliver a guarantee of the punctual payment by such Resource Provider of its obligations arising out of the Contract up to the Release Date in favor of PREPA in form and substance satisfactory to PREPA.

1.7 Tranche 2 RFP Scope of Supply

For this Tranche 2, PREPA intends to procure at least 500 MW of Renewable Energy Resource capacity and at least 250 MW (1,000 MWh) of Energy Storage Resource capacity with an effective duration of four (4) hours, as well as all of their associated environmental credits under the terms and conditions set forth in the Contract. PREPA will accept proposals for all, or a portion, of such capacity. Utility-Scale Resources offered in response to this RFP on a stand-alone basis (i.e., other than those aggregated into a VPP) must have generating capacity of at least 20 MW. Proponents may propose supply durations of up to twenty-five (25) years. Proponents may propose either new or existing Energy Resources, provided that any existing Energy Resource so proposed may not be covered by an existing PPOA, net metering arrangement or other contract with PREPA. All proposed Energy Resources shall comply with the relevant part(s) of the corresponding MTR for the specific technology, as adjusted for site-level MTRs as the T&D System evolves.

Energy Storage Resources shall provide discharge Energy during PREPA's evening peak periods, which normally extend from 4 pm through 10 pm but may also provide ancillary service capability such as frequency response, regulating capacity or operating reserves.

1.8 General Requirements

Each Proponent shall (i) submit a duly-completed version of a statement of qualifications in the form set forth in Section 4 (*SOQ SUBMISSION REQUIREMENTS*) (the "**SOQ**"), (ii) submit its proposal(s) in the format required by Section 5 (*PROPOSAL SUBMISSION REQUIREMENTS*) and in accordance with the other requirements of this RFP, (iii) clearly label and organize all attachments, documents, schedules, etc. submitted as a part of a proposal in a fashion that facilitates easy location and review, and (iv) submit a certification confirming that the proposal complies with, and the proposed Energy Resource(s), if selected and constructed, would fully comply with, Applicable Law.

Each Proponent shall satisfy the following requirements:

- a. Each Proponent may submit more than one (1) proposal if each proposal separately complies with Section 6 (*PROPOSED PROJECT EVALUATION*) on a standalone basis.
- b. The price submission set forth in each proposal to develop and construct an Energy Resource shall cover all of the Proponent's costs to (i) install, test and commission the transmission or distribution infrastructure required to connect such resource to the T&D System, and (ii) ensure that such resource complies with all Applicable Law currently in effect.
- c. Each Proponent shall identify all property and local taxes and tax abatements, related to its proposed project and Contract prices shall cover all such taxes.
- d. Proposals should demonstrate an ability to achieve commercial operation in a timeframe not to exceed twenty-four (24) months from the signing of the Contract. Consideration may be given to proposals with a COD not to exceed thirty (30) months from signing of the Contract, but such proposals will be disfavored relative to those proposing shorter development times, which will be given a higher score in the RFP evaluation process.
- e. For Renewable Energy Resource proposals, Proponents shall report project capacity and P50 Energy Yield for such resources during the proposed supply period.
- f. Prior to the date on which PREPA will sign a Contract, each Proponent shall provide evidence of its ability to provide equity funding at least equal to thirty percent (30%) of the forecasted costs to develop the proposed project by the forecasted date on which the Proponent will first draw down on loan facilities made available by lenders to the project.

1.9 **VPP Specific Requirements**

a. Proponents of VPPs shall specifically identify / submit as part of their proposals:

- i. the responsibilities of the Proponent relating to the assembly, registration and confirmation of the status of resources to be provided by third parties;
- ii. the manner in which the Proponent would coordinate and dispatch resources;
- iii. the nature of the assets, including software, servers, network communications equipment, resource control equipment, sensors and monitoring equipment required to support the dispatch of resources committed to the VPP;
- iv. the geographical location of each Energy Resource, and, where applicable, Demand Response Resource, forming part of the proposed VPP;
- v. a description of the aggregation of the program participants, and expected generating capacity and load drop values, equipment, and technology;
- vi. a description of the Proponent's plans for recruiting, engaging, monitoring the performance of and maintaining the participation of program participants;
- vii. for each Energy Resource forming part of a VPP, each performance penalty imposed on either the third party which owns such resource or the Proponent in association with such resource within the past five (5) years; and
- viii. any material actions, suits, claims, or proceedings (threatened or pending) against the Proponent, relating to each Energy Resource, forming part of the proposed VPP.
- b. Each VPP proposal shall satisfy the following requirements:
 - i. the Proponent shall source energy and capacity from VPPs aggregating only new or existing facilities that do not currently sell such energy and capacity to PREPA;
 - ii. the Proponent shall install and maintain all metering, SCADA and other forms of telemetry to establish, monitor, control and dispatch such VPP at its own cost and expense;
 - iii. VPPs shall comply with applicable MTRs and PREPA's standards for interconnection with the T&D System;
 - iv. VPPs shall be capable of supplying a minimum of five (5) MW of dependable capacity, which the Proponent must aggregate from multiple sites;
 - v. VPPs shall use existing, proven technology;
 - vi. all VPPs, other than VPPs consisting exclusively of Demand Response Resources, shall satisfy the same performance requirements as this RFP requires for Utility-Scale Energy Resources;
 - vii. the supply period for a VPP shall extend for a period of ten (10) to twenty-five (25) years from COD;

- viii. the Proponent selected by PREPA shall fund the cost of all upgrades to and new installations added to the T&D System required to accommodate such VPP;
- ix. the Proponent shall demonstrate that each Energy Resource and Demand Response Resource forming part of a proposed VPP can effect capacity responses / load reductions within the response time required when the T&D Operator curtails generation or sheds load on the T&D System throughout the entire supply period. PREPA will favor VPPs incorporating Energy Resources that can provide a rapid response and/or ramp up or down in response to specific control signals. VPP Proponents should detail the full, demonstrated capability of the proposed resource;
- x. the Proponent shall contractually undertake to, and demonstrate its capability to, manage all capacity dispatch and load reduction instructions, including all notices, resource participation registration and deregistration, communications, controls, equipment, and other processes required to satisfy PREPA's dispatch instructions; and
- xi. Contract prices for VPP proposals shall cover all property and local taxes and tax abatements related to such VPP.

During the evaluation stage, PREPA will give preference to Distributed Energy Storage VPPs.

1.10 Interconnection Requirements

PREPA views a Proponent's interconnection plan with the T&D System as a crucial factor in evaluating the delivery risk associated with any proposal. Proposals contemplating interconnection with the Distribution System must demonstrate that the proposed interconnection will satisfy the applicable requirements of Regulation 8915. Proposals contemplating interconnection with the Transmission System must demonstrate that the proposed interconnection will satisfy the applicable requirements of Regulation 8916. For all Utility-Scale Resources, Proponents must identify in their proposal the PREPA substation(s) where the physical point(s) at which the proposed Energy Resource(s) connect(s) to the T&D System (the "Interconnection Point") will be located. PREPA will base its evaluation on the primary Interconnection Point(s) proposed by the Proponent, and will have no obligation to evaluate alternative points of interconnection.

Proponents must consider the following factors in any proposal submitted pursuant to this RFP:

- a. The physical limitations on the delivery of Energy to the T&D System:
 - i. Utility-Scale Energy Resources can interconnect to either PREPA's 38 kV system or the 115 kV system;
 - ii. the Energy Resource capacity of a project connecting to the 38 kV system cannot exceed 25 MW;
 - iii. the power generation/discharge capacity at each point of interconnection to the T&D System of a Renewable Energy Resource and/or Energy Storage Resource

that will form part of a VPP cannot exceed 1 MW and shall comply with the applicable interconnection regulations; and

- iv. for VPPs, PREPA will give a preference to those resources connected to 13.2 kV feeders, the highest distribution voltage in Puerto Rico.
- b. Rights-of-way required to construct the transmission or distribution lines and interconnection facilities needed to connect the proposed resource to the T&D System, as the case may be.
- c. Substations where interconnection is considered most preferable for utility scale installations, as specified in Appendix K (*Interconnection Locations with Conditionally Available Capacity*).

Utility-Scale Resource Proponents shall (i) provide a detailed T&D System interconnection plan with their proposals, and (ii) ensure that the proposed T&D System interconnection plan satisfies all applicable MTR requirements, as well as relevant requirements of Regulation 8915 or Regulation 8916, as applicable.

The proposed pricing submitted by a Proponent in a proposal for a Utility-Scale Resource should assume that the Resource Provider funds the Imputed Estimated Interconnection Costs. Following PREPA's selection of proposals for Phase II, PREPA will conduct a Feasibility Study on all Utility-Scale Resource proposals to assess order-of-magnitude interconnection and required T&D System upgrade costs ("PREPA's Estimated Costs"). To fund the cost of conducting a Feasibility Study for each such proposal selected for Phase II evaluation, PREPA will require the Proponent to remit a non-refundable fee to PREPA's Account in an amount equal to [•] U.S. Dollars (\$ [•]) multiplied by the capacity of the proposed Energy Resource, measured at the point of interconnection with the T&D System (the "First Non-Refundable Fee"). PREPA will cluster such proposals for interconnection studies. In such studies PREPA will analyze the impacts of integrating a group or cluster of Utility-Scale Resources at specific locations when ranking or selecting proposals for further consideration, in particular with regard to assessing any required network upgrades or the potential to utilize shared interconnection facilities across multiple projects. Following PREPA's selection of proposals for Phase III, PREPA will conduct a System Impact Study followed by a Facility Study for such proposals. To fund the cost of conducting a System Impact Study and Facility Study for each Utility-Scale Resource proposal selected for Phase III evaluation, PREPA will require the Proponent to remit a second non-refundable fee to PREPA's Account in an amount equal to **[**] U.S. Dollars (**§**] multiplied by the capacity of the proposed Utility-Scale Resource, measured at the point of interconnection with the Transmission System (the "Second Non-Refundable Fee") as part of the conditions for closing under the Contract.

While each Resource Provider shall have the responsibility to fund all of the T&D System interconnection and upgrade costs under the Contract, relating to the integration of the proposed Utility-Scale Resource, PREPA will permit a Proponent to adjust its price proposal in the Contract to the extent that PREPA's Estimated Costs exceed the Imputed Estimated Interconnection Costs for purposes of allowing a Proponent to recover such excess costs through the tariff mechanism. Where the Imputed Estimated Interconnection Costs exceed PREPA's Estimated Costs, PREPA

will correspondingly require a downward adjustment of the proposed price to reflect a Proponent's need to recover the lower level of interconnection costs than the Imputed Estimated Interconnection Costs.

PREPA has identified, and set forth in Appendix K (*Interconnection Locations with Conditionally Available Capacity*), a list of the preliminary locations to allow for reliable interconnection of Energy Resource capacity. In several instances, this list also sets forth particular conditions or caveats as required by technical uncertainties associated with a specific location.

1.11 Title III Status

This Section provides an update of the ongoing debt restructuring efforts of PREPA under Title III of the Puerto Rico Oversight, Management, and Economic Stability Act ("**PROMESA**").

- a. (**PREPA's Financial Liabilities**) As of the bankruptcy filing date, PREPA's financial obligations principally consisted of (i) approximately \$8.3 billion in principal amount of power revenue bonds, (ii) approximately \$700 million in principal amount under two (2) matured fuel line loans, and (iii) approximately \$52.2 million notional amount under two (2) interest rate swaps.
- b. (PREPA Title III Case) On July 2, 2017, at the request of the Governor of Puerto Rico, the FOMB filed a petition for relief for PREPA pursuant to PROMESA section 304(a), thereby commencing a case under Title III of PROMESA in the United States District Court for the District of Puerto Rico (the "Title III Court"). Pursuant to PROMESA section 315 (48 U.S.C. § 2175), the FOMB serves as PREPA's representative in its Title III case, Case No. 17 BK 4780-LTS (D.P.R. 2017). Upon commencement of PREPA's Title III case, an automatic stay of litigation related to the financial indebtedness and other obligations of PREPA immediately went into effect, which affords PREPA protection while PREPA continues efforts to negotiate with its creditors to adjust its debts.

c. (Restructuring Support Agreement)

- i. On May 3, 2019, FOMB, AAFAF, PREPA, the Ad Hoc PREPA Bondholder Group, Assured Guaranty Corp., and Assured Guaranty Municipal Corp. executed the Definitive Restructuring Support Agreement (together with the annexes, exhibits, and schedules attached thereto, as each may be amended, restated, supplemented, or otherwise modified from time to time in accordance with the terms of the 2019 RSA, the "2019 RSA"). The 2019 RSA contemplates the issuance of new securitization bonds in a plan of adjustment for PREPA, which securitization bonds would be payable from a transition charge imposed on PREPA's customers and certain other electricity users, through a special purpose issuer in order to restructure at a discount PREPA's outstanding long-term debt. Under the 2019 RSA, the bondholders would exchange their existing Authority bonds for two (2) types of new securitization bonds. The Series A bonds would be exchanged for approximately sixty-seven decimal five percent (67.5%) of the face amount of the existing bonds. The Series B bonds would be exchanged for ten percent (10%) of the face amount of the existing bonds. The repayment of the Series B bonds is contingent to the demand for electricity and the repayment of the Series A bonds. The issuance of securitization contemplated under the 2019 RSA only becomes effective after confirmation of a plan of adjustment for PREPA and passage of any required legislation. As of this date, the FOMB has not filed a plan of adjustment for PREPA and neither the Governor of Puerto Rico, nor any Puerto Rico legislator, has presented to the Puerto Rico legislature a bill to approve the transactions contemplated by the 2019 RSA.
- ii. On May 10, 2019, the FOMB and AAFAF filed a joint motion to approve the settlements embodied in the 2019 RSA (the "**9019 Motion**"). Numerous parties objected to the 9019 Motion and discovery was conducted, resulting in several adjournments of the motion. In response to the spread of COVID-19 and its effects on the people and economy of Puerto Rico, on March 27, 2020, the FOMB and AAFAF asked the Title III Court to adjourn all hearing and briefing deadlines in connection with the 9019 Motion. The request was granted, and all the deadlines related to the consideration of the 2019 RSA are currently stayed. Pursuant to the District Court orders, the FOMB and AAFAF file periodic reports providing an update on PREPA's financial condition and proposing next steps with respect to the 2019 Motion and the settlements subject to the approval of the Title III Court. There is no current timeline for proceeding with the 9019 Motion or associated with the filing of a plan of adjustment and disclosure statement for PREPA.
- d. (Lack of Incorporation of Bankruptcy Code 363 into PROMESA) PROMESA did not incorporate the provisions of section 363 of the Bankruptcy Code that otherwise would limit a debtor's ability to use of funds and assets outside of the ordinary course of business. As a result, <u>PROMESA does not prevent PREPA from using its cash, including cash that is part of a secured lender's collateral</u>. Specifically, section 363(b) of the Bankruptcy Code, which, absent court approval, restricts a debtor's use, sale, or lease of property outside the ordinary course of business, does not apply in Chapter 9 or under PROMESA. Accordingly,

PREPA does not require Title III Court approval prior to entering into any contracts regarding any use, sale, or lease of its property.

(Title III Impact on PREPA's Ability to Remit Fuel / Power Purchase Payments) The e. process under Title III of PROMESA has not had a material impact on PREPA's ability to remit payments for fuel and energy to fuel suppliers and independent power producers in Puerto Rico ("IPPs"), respectively. PREPA has remitted payments under its fuel supply contracts and power purchase agreements with IPPs in full and generally on time on all undisputed invoices during the past two (2) years largely due to a regulatory structure that ensures sufficient liquidity for these payments. As background, the regulatory framework for the determination by the Energy Bureau of tariff rates for the sale of power by PREPA (the "Rate-Payer Tariff") to end-users (the "Rate-Payers") requires the Energy Bureau to consider four (4) primary components: (i) the base rate, (ii) the provisional rate, (iii) an adjustment for purchased fuel payments, remitted to fuel suppliers pursuant to fuel supply contracts with PREPA ("Purchased Fuel Payments" or "PFP"), and (iv) an adjustment for purchased power payments, remitted to IPPs pursuant to PPOAs with PREPA ("Purchased Power Payments" or "PPP"). To ensure PREPA has sufficient revenue to fund the Purchased Fuel Payments and Purchased Power Payments, the Energy Bureau reviews and resets the adjustment clauses of the Rate-Payer Tariff every three (3) months based on the Purchased Fuel Payments and Purchased Power Payments, projected expenses and a reconciliation with actual expenses each quarter. The schematic captioned "Today" on the left side of Appendix L (Puerto Rico Electricity Sector Transformation) shows the current structure of the electricity sector in Puerto Rico as well as the revenue streams running from Rate-Payers to PREPA and from PREPA to IPPs and fuel suppliers. As the projects selected by PREPA for implementation under this RFP will likely achieve commercial operation after closing of the transactions with the T&D Operator and the GENCO Operator, described in Section 1.3 (PREPA and the Transformation of the Electric System), the schematic depicted as "Upon Closing of T&D and GENCO Transactions" on the right side of Appendix L (Puerto Rico Electricity Sector Transformation) shows the transformed electricity sector structure, including the Resource Providers, as well as the revenue streams running from Rate-Payers to PREPA and from PREPA to Resource Providers. Importantly, amounts remitted by PREPA to Resource Providers under a Contract will qualify as "Purchased Power Payments" under the regulatory framework for purposes of setting the Rate-Payer Tariff.

1.12 Local Participation

PREPA will encourage Proponents to engage local subcontractors, professionals, relevant service providers and other local parties headquartered in Puerto Rico to the greatest extent possible and provide descriptions of their current and/or anticipated business arrangements with such local parties.

1.13 Capacity Assessment of Co-Located Energy Resources

PREPA will apply the following guidelines when assessing the capacity of co-located Energy Resource proposals (other than Energy Resources forming part of a VPP):

- a. Co-located Energy Resources must meet the minimum capacity requirement of at least 20 MW at each point of electrical interconnection with the Transmission System.
- b. PREPA's assessment of the capacity of any proposal to install a Renewable Energy Resource paired together with an Energy Storage Resource will depend whether the T&D Operator can dispatch these co-located Energy Resources independently. If a Proponent proposes to install Co-Located Standalone Resources or Co-Located ITC Compliant Resources, then PREPA would effectively view each co-located Energy Resource as a separate proposal for purposes of assessing compliance with the minimum capacity requirement. Thus, PREPA would disqualify hypothetical Co-Located Standalone Resources or Co-Located ITC Compliant Resources proposal which proposed the installation of a 10 MW Renewable Energy Resource co-located with a 10 MW Energy Storage Resource, since the 10 MW capacity at the electrical interconnection of each proposed Energy Resource falls below the 20 MW minimum capacity requirement.
- c. If a Proponent proposes to install Co-Located Integrated Resources, then PREPA will count only the proposed generation capacity for purposes of assessing compliance with the minimum capacity requirement and would not factor the discharge capacity of the Energy Storage Resource component of such proposal into this assessment. Thus, PREPA would similarly disqualify a hypothetical Co-Located Integrated Resources proposal which proposed the installation of a 10 MW Renewable Energy Resource co-located with a 10 MW Energy Storage Resource, since the 10 MW generating capacity falls below the 20 MW minimum capacity requirement.
- d. When assessing the capacity of a Renewable Energy Resource proposal, PREPA will disregard the storage capacity required by the MTRs.

2. INSTRUCTIONS TO PROPONENTS

2.1 **Communications**

Except as otherwise expressly set forth in this RFP, each Proponent shall communicate with PREPA regarding all RFP matters via the Event No. 128568 on PowerAdvocate® through the following link prior to the selection or rejection by PREPA of such Proponent's proposal(s):

[•]

Each Proponent shall use the "**Messaging**" tab of the event No. 128568 on PowerAdvocate® for all communications with PREPA, and address all such communications to PREPA's designated point of contact for this RFP:

Yadira L. Lugo Cordero PREPA will not accept oral questions and will respond to all questions and requests for clarification in writing via the aforementioned link, duly-submitted in accordance with Section 2.6 (*Request for Clarification*).

Except as set forth above, Proponents shall not communicate, and shall ensure that each of their advisors and Affiliates do not communicate, with representatives of (A) PREPA or any other instrumentality of the Government of Puerto Rico (including any member of the evaluation committee, any advisor of PREPA in the RFP process, any PREPA employee or representative, any directors, officers or consultants of PREPA), or relevant entities of federal government, or any other entities involved in the administration of the RFP process, (B) other Proponents, such as directors, officials, employees, consultants, advisors, agents or representatives regarding any matter related to the preparation, contents and presentation of this RFP during the submission and selection processes and (C) the T&D Operator, in each case without PREPA's prior approval. To the extent that a Proponent believes in good faith that it must engage in direct communications that depart from the foregoing communication protocol for purposes that relate to the preparation, submission or implementation of an Energy Resource proposal under this RFP, such Proponent shall first obtain the approval of PREPA to engage in such communication (which PREPA may withhold in its sole discretion). To the extent that Applicable Law, relating to the interconnection of Energy Resources with the T&D System, contemplates that an interconnection customer submit an application, provide data or otherwise directly communicate with the T&D Operator, PREPA hereby pre-approves all such direct communication between a Proponent and the T&D Operator for the limited purpose of establishing an interconnection between the Energy Resource proposed by such Proponent and the T&D System. Failure to comply with these communication restrictions may result in immediate disqualification of the Proponent initiating such communication from further participation in the RFP process.

Appendix M (*PowerAdvocate*® *Guide*) sets forth the PowerAdvocate® guide. For technical assistance with the sourcing platform application, please contact PowerAdvocate®'s technical support at (857) 453-5800, or by email at: support@PowerAdvocate.com. Each Proponent shall ensure that it has fully-uploaded its proposal documents before the time and date of the Proposal Submission Deadline.

2.2 Addenda

PREPA reserves the right to modify the RFP documents up to three (3) days prior to the Proposal Submission Deadline. Any changes or modifications to this RFP's terms, conditions, or specifications will be made through addenda posted on the Event No. [•] on PowerAdvocate®. It is the sole responsibility of the Proponent to monitor the Event No. [•] on PowerAdvocate® for additional information, updates, amendments or addenda concerning this RFP that may be uploaded on an ongoing basis, without notice to the Proponents.

2.3 Milestone Schedule

Table 2-1 (*Milestone Schedule*) below summarizes the key timeline milestones of this RFP (as amended, the "**Milestone Schedule**").

No	Milestone	Date
1	RFP Released to Public	[15 October 2021]
2	Kick-Off Presentation Made Available	[22 October 2021]
3	Kick-Off Presentation	[27 October 2021]
4	Notice of Intent to Respond and signed NDA Deadline	[16 November 2021]
5	Contract Exceptions Deadline	[23 November 2021]
6	Release of Final Proposal Version of Contracts	[7 December 2021]
7	Request for Clarification Submittal Deadline	[10 December 2021]
8	Proposal Submission Deadline & Commencement of Phase I Evaluation	[27 December 2021]
9	Proposal Hard Copy Submission Deadline	[3 January 2022]
10	Selection of Proposals for Phase II Evaluation	[17 January 2022]
11	Selection of Proposals for Phase III Evaluation	[11 March 2022]
12	Execution of Contracts by Resource Providers Selected for Phase III Evaluation	[22 April 2022]
13	Approval by Energy Bureau, P3A, FOMB, PREPA's Governing Board and T&D Operator of Contracts Executed in Milestone No. 12	[6 June 2022]
14	Execution of Contracts by PREPA	[14 June 2022]
15	Issuance of Best Interest Determinations by PREPA	[15 August 2022]

Table 2-1 - Milestone Schedule

This RFP includes the Milestone Schedule for illustrative purposes only. Target dates and deadlines remain subject to modification, including with respect to additional requirements and approvals. Each Proponent shall periodically review Event No. [•] on PowerAdvocate® (as

described in Section 2.1 (*Communications*)) for regular updates to the Milestone Schedule and other important information.

2.4 Kick-Off Presentation

PREPA will make available a recorded kick-off presentation of this RFP via the "**Tab No. 1** – **Download Documents**" of Event No. [•] on PowerAdvocate® after 10:00 am Atlantic Standard Time on October [•], 2021, due to the current global pandemic caused by COVID-19 and social distancing restrictions. For the convenience of potential Proponents, PREPA will make available a draft version of the kick-off presentation via the "**Messaging**" Tab of Event No. [•] on PowerAdvocate® on [October [•]], 2021. Proponents may submit Requests for Clarifications about the draft version up to three (3) days prior to the kick-off presentation through the "Messaging" tab of the Event No. [•] on PowerAdvocate®, which PREPA will evaluate and may address in its sole discretion in the final version of the kick-off presentation.

PREPA will make the final version of the recorded kick-off presentation for this RFP available as Appendix N in the "**Tab No. 1** – **Download Documents**" of Event No. [•] on PowerAdvocate® following the presentation of the recorded kick-off meeting on [•]. To view the draft and final versions of the kick-off presentation, select the option of Slide Show in PowerPoint and at each slide press play in the audio icon located in the right of the slide.

2.5 Notice of Intent to Respond & Non-Disclosure Agreement

Proponents shall confirm their intent to submit a proposal in response to this RFP by submitting to PREPA (i) a Notice of Intent to Respond, and (ii) a Non-Disclosure Agreement, in each case through the "**Messaging**" tab of Event No. [•] on PowerAdvocate® by no later than 8:00 pm Atlantic Standard Time on or before the deadline for submission set forth in the Milestone Schedule.

2.6 **Request for Clarification**

Proponents shall submit all questions relating to, and requests for an interpretation of, this RFP and a Contract in accordance with Section 2.1 (*Communications*) no later than 8:00 pm Atlantic Standard Time on or before the Request for Clarification Submittal Deadline through the "**Messaging**" tab of the Event No. [•] on PowerAdvocate®. PREPA will have no responsibility for answers to questions or responses to requests for interpretation of this RFP or a Contract other than those questions and requests submitted as set forth herein. PREPA will only accept such questions and requests for interpretation up to the Request for Clarification Submittal Deadline.

Proponents must submit their questions in the Form of Request for Clarification included as Appendix B (*Form of Request for Clarifications*). This document must be submitted in PDF and Word format and each question must reference the page number and section of the RFP (including appendices) or Contract, as applicable. If responses to the request for clarifications constitute a modification or generate additional information, PREPA will provide such clarification through an addendum posted on the event No. [•] on PowerAdvocate®. Questions should not contain proprietary information, because the answers will be published in the public domain. PREPA does not guarantee answers to all questions or comments received. Again, Proponents should check the Event No. [•] on PowerAdvocate® periodically for updates and postings.

Each Proponent has the responsibility to inform PREPA of any conflicting statements, need for clarification, or omissions of pertinent data from this RFP prior to the Request for Clarification Submittal Deadline. In the event that PREPA has not responded by the Proposal Submission Deadline to a question or request for interpretation submitted by a Proponent prior to the Request for Clarification Submittal Deadline, each Proponent may identify such question or request and make a statement regarding the same in its proposal(s).

2.7 **Contract Exceptions**

Following its delivery of a Notice of Intent to Respond and Non-Disclosure Agreement, each Proponent should (i) review the relevant preliminary template version of the Contracts set forth in Appendix F (Form of Solar PPOA), Appendix G (Form of ESSA for Standalone Energy Storage Resources), Appendix Q (Form of Grid Services Agreement) and Appendix R (Form of ESSA for ITC Compliant Energy Storage Resources), and (ii) submit to PREPA no later than the relevant Contract Exceptions Deadline a revised version of such form of Contract that shows all of the material changes, requested by such Proponent to the relevant Contract template, in blackline form together with a brief explanation of the rationale for such change as a comment linked to the relevant provision containing such change (the "Contract Exceptions") through the "Messaging" tab of Event No. [•] on PowerAdvocate® by no later than 8:00 pm Atlantic Standard Time on or before the deadline for submission set forth in the Milestone Schedule. To the extent that a Proponent intends to submit a proposal for a non-solar PV Renewable Energy Source, such Proponent should propose alternative provisions that will replace the solar PV-specific provisions of the Contract. The Contract Exceptions need not include changes related to the contextualization of the Contract for such Proponent's specific project proposal(s), which PREPA will allow during the finalization of the Contract with the Proponents of selected proposals.

2.8 **Final Proposal Version of Contracts**

Upon the expiration of the relevant Contract Exceptions Deadline, PREPA will review and assess all of the Contract Exceptions submitted by Proponents, and prepare and issue to all Proponents (i) a final proposal version of Solar PPOA, (ii) to the extent that Proponents intend to submit proposals for a Renewable Energy Resource other than a solar PV facility, a final form PPOA for such resource, (iii) a final proposal version of ESSA for Standalone Energy Storage Resources, (iv) a final proposal version of ESSA for ITC Compliant Energy Storage Resources, and (v) a final proposal version of Grid Services Agreement, in each case that takes into account the Contract Exceptions but only to the extent that PREPA deems this necessary in its sole discretion (each, a "*Final Proposal Version of Contract*"). Each Proponent should submit its proposal(s) to PREPA on the assumption that the relevant Final Proposal Version of Contract shall govern the terms and conditions under which the Resource Provider will design, construct, install, own, operate and maintain its proposed project(s) as well as make available the Energy Resource(s) to PREPA.

2.9 **Designation of Resource Provider**

As part of its proposal, Proponents shall designate itself or any third party as the counter-party (each, a "**Resource Provider**"), which will execute and deliver a Contract with PREPA in the event that PREPA selects such Proponent's proposal for Phase III evaluation; provided that:

- a. for a Proponent consortium that designates a third party as the Resource Provider, each consortium member that submitted information to demonstrate compliance with the requirements of Section 3 (*PROPONENT QUALIFICATION REQUIREMENTS*) must maintain a direct or indirect ownership interest in the designated Resource Provider of at least twenty-five percent (25%) through to the COD;
- b. for single member Proponents that designates a third party as the Resource Provider, the designated Resource Provider must qualify as an Affiliate of the Proponent through to the COD;
- c. for all third-party designations, Proponents shall also submit a detailed schematic showing the ownership structure above the Resource Provider; and
- d. designated Resource Provider shall otherwise satisfy the requirements for Proponents set forth in Section 3.1 (*Qualification Requirements*) and the no disbarment criteria set forth in Table 3-1 (*Minimum Eligibility Requirements*) (i) for existing Resource Providers, at the time of proposal submission, and (ii) for Resource Providers to be established after proposal submission, prior to Contract signing.

Proponents that designate a newly-established special purpose vehicle or any other third party as the Resource Provider, which does not satisfy the financial capability requirements set forth in Section 4.5 (*Section Four: Financial Capability*) shall arrange for a Permitted Guarantor to guarantee the payment obligations of such Resource Provider, arising out of a Contract as further described in Section 1.6 (*Contract Terms and Conditions*).

2.10 **Deadline and Method for Submitting Proposals**

Each Proponent shall submit its proposal to PREPA in accordance with Section 5 (*PROPOSAL SUBMISSION REQUIREMENTS*). A duly-authorized representative of the Proponent or Proponent consortium with the authority to bind such Proponent / Proponent consortium shall execute such proposal. Proponents must submit their proposals in response to this RFP through the "**Upload Documents**" tab of the Event No. [•] on PowerAdvocate® on or before 8:00 pm Atlantic Standard Time on or prior to the Proposal Submission Deadline. PREPA will not accept proposals (i) received after the specified date and time, or (ii) submitted through the "**Messaging**" tab (which is exclusive for communications), and such proposals will be disqualified from further evaluation. Proponents shall include with all such submissions a contact name, email address, and company name.

In addition to the above, Proponents must provide:

a. a redacted copy of the proposal as required in Section 2.11 (*Confidentiality of Responses and Proprietary Information*), through the "**Upload Documents**" tab of Event No. [•] on PowerAdvocate®;

b. a copy of each of the following sections of the proposal through the tab of Event No. [•] on PowerAdvocate® indicated below. Proponents must upload all applicable supporting documents or attachments of each section in the corresponding tab; and

Proposal Section	PowerAdvocate® Tab
Section One: Executive Summary	Commercial
Section Two: Corporate Structure	Commercial
Section Three: Technical and Operational Capability	Technical
Section Four: Financial Capability	Commercial
Section Five: Other Criteria and Additional Capability	Technical
Section Six: Timeline	Technical
Section Seven: Safety Performance	Technical
Section Eight: Project Development Summary	Technical
Proposal Completeness Checklist	Commercial
Proposal Data Forms	Pricing
Interconnection Data Request Forms	Technical
Ownership / Control of Site	Technical
10-Year O&M Cost Breakdown	Technical
Business Continuity Plan	Technical
Legal Proceedings	Commercial
VPP Specific Requirements	Technical

Table 2-2 - PowerAdvocate® Tabs

c. (i) a proposal hard copy, and (ii) a redacted proposal hard copy, both certified as exact copies of the proposal and the redacted proposal uploaded to Event No. [•] on PowerAdvocate®. PREPA's Supplier Registry Office must receive the hard copies after the Proposal Submission Deadline, on or before 3:00 pm Atlantic Standard Time by the deadline for submission set forth in the Milestone Schedule, at the following address:

Puerto Rico Electric Power Authority Supplier Registry Office PO Box 3670151 San Juan, Puerto Rico 00936

PREPA encourages Proponents to allow themselves enough time to upload their proposals and to confirm that the files are available for PREPA's review.

2.11 Confidentiality of Responses & Proprietary Information

Upon completion of the RFP process, PREPA will make its report on the procurement and selection process public. This report will contain information related to this RFP process, except for confidential and proprietary information of the proponents. Confidential, proprietary and privileged information and trade secrets ("Confidential Information") shall be classified as such by the Proponents. In order to ensure that PREPA will not disclose Confidential Information, Proponents must request that PREPA treats such information as confidential and must submit a redacted copy of their proposal. The redacted copy of the proposal must include an explanation of the reasons why such documents are labeled as confidential, including references to any applicable legal protections, a description of the commercially harmful effects of a disclosure and the reasons why the disclosure of such information is not necessary for the protection of the public interest. PREPA reserves the right to make public the redacted copies of the proposals at the conclusion of the RFP process. If a Proponent does not submit a redacted copy of its proposal, PREPA will assume that the entirety of the proposal can be made public. Proposals containing substantial contents marked as confidential may be rejected by PREPA. The provision of information marked as confidential will not prevent PREPA from disclosing such information if required by law. The executed Contract(s), if any, and all prices set forth therein shall not be considered confidential and such information may become publicly available.

3. PROPONENT QUALIFICATION REQUIREMENTS

As part of a proposal, each Proponent must submit a detailed SOQ by the Proposal Submission Deadline. The SOQ will help PREPA identify those Proponents that meet the minimum requirements necessary to carry out the development, construction, commissioning and operation of an Energy Resource in compliance with Act 82-2010, Act 120 and Act 17. PREPA expects to select proposals advanced only by Proponents that demonstrate:

- a. capability and experience in developing, constructing, installing, testing, and operating Utility-Scale Resource or, in the case of Proponents proposing a VPP as an Energy Resource, experience in aggregating, contracting for and managing resources aggregated into and dispatched as a VPP (as applicable);
- b. capability and experience managing renewable energy and energy storage technology or, if applicable, VPP aggregation arrangements;
- c. financial strength and capital resources adequate to support required project funding;
- d. strong technical expertise, with a track record of high-quality operations; and
e. experience complying with regulatory and permitting requirements in Puerto Rico.

In evaluating Proponents, PREPA may disqualify a Proponent for any of the reasons stated in Section 5.3 (*Disqualification of Proposals*) and the PPP Regulation, or if a Proponent:

- a. is ineligible to submit a proposal on one or more grounds specified in Act 120, the PPP Act, or the PPP Regulation;
- b. fails to satisfy the standards established by PREPA with respect to the Proponent's required technical / professional ability and experience or financial condition set forth in Section 4.4 (*Section Three: Technical and Operational Capability*) and Section 4.5 (*Section Four: Financial Capability*), respectively; or
- c. fails to comply with the requirements of Sections 9(a) (*Applicable Requirements and Conditions for those who wish to be considered as Proponents*) and/or 9(d) (*Consortia*) of the PPP Act, as applicable.

3.1 **Qualification Requirements**

Each Proponent (or, for a Proponent consortium, each consortium member) must be a business organization existing and duly registered in good standing under the laws of its jurisdiction of incorporation. A consortium shall not contain a member that is a member or has an Affiliate which has registered as a member of more than one Proponent consortium responding to this RFP or as another Proponent. Proponents should note that this provision shall not restrict (i) suppliers of equipment and services from supporting more than one Proponent, or (ii) a member of a Proponent consortium or such member's Affiliate to participate in two (2) or more separate Proponent consortia, as long as each Proponent consortium submits proposals in different technology groups. Proponents should describe their industry experience in detail, providing at a minimum the following:

- a. overview of the Proponent's company (or, in the case of a Proponent which is a consortium, each consortium company), including the company's or consortium members' financial condition, and the products/services offered;
- b. specific instances in which the Proponent or members of the Proponent's consortium has performed industry-specific work similar in nature to the work required to develop, construct and operate the resources sought through this RFP; and
- c. a detailed list of the portfolio of energy resource projects, which the Proponent or members of the Proponent's consortium, has / have developed and an indication of the year that each project achieved COD (or if they have not achieved COD, the estimated COD), the location, technology type and installed capacity.

3.2 Minimum Eligibility Requirements

PREPA will evaluate the SOQ submitted by each Proponent based on the minimum eligibility requirements set forth in Table 3-1 (*Minimum Eligibility Requirements*) (the "**MER**"). Each Proponent (i) should indicate its technical and operational capabilities, and (ii) must demonstrate

that it satisfies each of the financial and no disbarment criteria (the "**Financial and No Disbarment Criteria**"), to develop the relevant Energy Resource.

Туре	Description					
	1. Ownership / establishment by Proponent (or, for a Proponent consortium, at least one member of such consortium) of one (1) or more existing Energy Resource projects, including VPPs, (each, a " Reference Project "), with each Reference Project satisfying the following requirements:					
	a. For Energy Resources other than VPPs:					
	i. experience developing, financing, constructing and operating such project;					
	ii. compliance with the initial development timeline for such project;					
	iii. utilization of cost-effective technology;					
	iv. installed capacity of at least 20 MW;					
Technical and Operational Capabilities Criteria	v. utilization of technology similar to that which the Proponent intends to submit in its proposal under this RFP; and					
	vi. direct or indirect ownership by the Proponent or its Affiliate of at least thirty-five percent (35%) of the legal entity which directly owns such Reference Project.					
	 b. For Energy Storage Resources, experience developing and assembling the proposed system for such resource in at least one (1) commercial (non-demonstration) grid-connected installation. 					
	c. For VPPs:					
	i. experience aggregating multiple generation, demand response and/or storage resources; and					
	 ii. contracted VPP capacity either (i) currently in commercial operation, supplying some combination of capacity, energy and Demand Response to one (1) or more purchasers, or (ii) contractually committed to supply a combination of capacity, energy and Demand Response to at least one (1) 					

Table 3-1 - Minimum Eligibility Requirements

Туре	Description			
	unaffiliated purchaser prior to the second (2nd) anniversary of the issuance of this RFP.			
	2. For each existing Energy Resource designated as a Reference Project, a certification confirming no material or sustained violation of Applicable Law, relating to any environmental matter involving the development, construction or operation of such project during the past three (3) years.			
	3. For each Reference Project, a certification confirming such project's compliance with energy-related policies, practices, and regulations and all other Applicable Law during the past three (3) years.			
	4. For each Reference Project, a certification confirming no record of Unsatisfactory Performance during the past three (3) years.			
	5. For each Reference Project:			
	a. facility or project name;			
	b. facility or project location;			
	c. technology configuration and capacity;			
	d. major equipment manufacturers;			
	e. engineering, procurement, and construction contractor; and			
	f. commercial operation year.			
Financial Criteria	Evidence that a Proponent (or, for a Proponent consortium, at least one (1) member of such consortium) satisfies the requirements set forth in Section 4.5 (<i>Section Four: Financial Capability</i>).			
No	Certification by a Proponent (or, for a Proponent consortium, the Lead Member and each of the Other Members) that neither it, nor any of its Affiliates nor any executive officer or member of the board of any of the foregoing parties has been the subject of any of the following adverse findings within the past five (5) years:			
Disbarment Criteria	1. pending litigation with the Government of Puerto Rico or any state;			
	2. arson conviction or pending case;			
	3. harassment conviction or pending case;			
	4. sale tax lien or substantial tax arrears;			

Туре	Description
	5. fair housing violations or current litigation;
	6. a record of substantial building code violations or litigation against properties owned and/or managed by the Proponent or by any entity or individual that comprises the Proponent;
	7. past or pending voluntary or involuntary bankruptcy proceeding; and
	8. conviction for fraud, bribery, or grand larceny,
	(the "No Disbarment Certification").

Appendix O (*Form of Certificate for Minimum Eligibility Requirements*) sets forth a form of each of the certificates requested in Table 3-1 (Minimum Eligibility Requirements).

4. SOQ SUBMISSION REQUIREMENTS

4.1 Introduction

Together with its proposal(s), each Proponent shall prepare and submit a SOQ in English and in the format outlined in Table 4-1 (*SOQ Format*).

Sections	Content		
Section One	Executive Summary		
Section Two	Corporate Structure		
Section Three	Technical and Operational Capability		
Section Four	Financial Capability		
Section Five	Other Criteria and Additional Capability		
Section Six	Timeline		
Section Seven	Safety Performance		
Section Eight	Project Development Summary		

Table	4-1	- SOQ	Format
-------	-----	-------	--------

4.2 Section One: Executive Summary

The Executive Summary section of the SOQ should include a brief description of:

- a. the Proponent's qualifications for the implementation of the project, which it intends to propose in its response to this RFP, as described in Section 3 (*PROPONENT QUALIFICATION REQUIREMENTS*); and
- b. envisaged use (if any) of any contractors and sub-contractors.

4.3 Section Two: Corporate Structure

The Corporate Structure section of the SOQ should include the information mentioned below:

- a. For the Proponent (or, for a Proponent consortium, each member of such consortium) and, where applicable, each Resource Provider, (i) contact person, (ii) registered address, (iii) telephone number, and (iv) email address.
- b. The Proponent's and Resource Provider's corporate structure and history, or, for a Proponent consortium, the identification of all members of such consortium, levels of participation therein and the identity of the Lead Member and Other Members, together with summaries of their corporate structures and histories.
- c. For the Proponent's (or, for a Proponent consortium, each member of such consortium's) ultimate parent company, the following information: (i) contact person, (ii) registered address, (iii) telephone number, and (iv) e-mail address.
- d. The following information should be provided for the Proponent (or, for a Proponent consortium, each member of such consortium):
 - i. year established; and
 - ii. company profile (summary description) along with role of the company, i.e., Lead Member or Other Member.
- e. To the extent that a Permitted Guarantor will guarantee the financial obligations of a Proponent or a Proponent consortium member, the Proponent shall provide the following key financial information:
 - i. current market capitalization (if listed);
 - ii. current long-term unsecured credit rating (S&P, Moody's and Fitch) of such parent company; and
 - iii. identity of company auditor(s).
- f. A description and/or organizational chart depicting the organizational and corporate structure(s) of the Proponent (e.g., identity of intermediate shareholders, levels of shareholding and ultimate parent company) and, in the case of a Proponent consortium, each member of such consortium (including, for example, distribution of shareholdings, apportionment of roles and responsibilities within the consortium, envisaged intra-member agreements and the degree to which a formal relationship exists among the entities within

the consortium as of the date of the submission of the Proponent's proposal(s) in response to this RFP).

- g. A description of the technical, operational and managerial resources available to the Proponent in the relevant organizational chart in the period up to the date on which the Proponent intends achieve COD for the proposed project.
- h. A description of the level of commitment by envisaged O&M contractors and/or EPC contractors and/or equipment suppliers.
- i. A list of key individuals participating in the Proponent's team and their roles.
- j. A list of technical, financial, legal, accounting, or other advisors that the Proponent has engaged or intends to engage in connection with the proposed project.
- k. Resumes (indicating overall experience and any specific relevant experience) of each of the key individuals participating in the Proponent's team that will manage the development, construction, financing, ownership and operation of the proposed project with each such individual having at least ten (10) years of relevant experience for all executive-level positions (each, a "Team Member").

4.4 Section Three: Technical and Operational Capability

The Technical Capability section of the SOQ shall present all of the documentation and other evidence relating to the Reference Projects set forth in the Technical and Operational Capabilities criterion of Table 3-1 (*Minimum Eligibility Requirements*).

4.5 Section Four: Financial Capability

The Financial Capability section of the SOQ shall present evidence that the Proponent has the financial capability to fulfill its obligations arising out of a Contract for the proposed project.

- a. (Unrestricted Net Worth) Each Proponent shall produce copies of audited financial statements, Form 10-Ks or similar types of audited annual reports for the last three (3) financial years evidencing that either (i) the Resource Provider, or (ii) a Permitted Guarantor, which will guarantee the payment obligations of the Resource Provider arising under a Contract, in each case has an Unrestricted Net Worth that exceeds the Minimum Amount.
- b. (Ability to Raise Debt Financing) Each Proponent shall provide specific evidence demonstrating its ability to raise debt financing. PREPA will give preference to proposals which include a detailed proposed financing plan for the proposed project, supported as appropriate by letters confirming plan specifics from anticipated providers of debt in support of the project proposal. Specific factors that will be assessed include:
 - i. capability of raising significant quantities of debt in the current project finance markets;

- ii. evidence of experience raising project debt to support the development of Energy Resources, in particular in Puerto Rico;
- iii. the number and size of past relevant transactions;
- iv. specific experience in managing past relevant transactions;
- v. experience with Investment Tax Credits (ITC) or Production Tax Credits (PTC) for utility-scale renewable energy projects; and
- vi. letters from prospective lenders confirming their commitment to support and fund the project.

Each Proponent shall present the foregoing financial information in the form sheets attached in Appendix D (*Proposal Data Forms*).

4.6 Section Five: Other Criteria & Additional Capability

Proponents shall submit the following certifications and additional information relating to other criteria for the Proponent's eligibility:

- a. No Disbarment Certification;
- b. certification confirming that the Proponent (or, for a Proponent consortium, the Lead Member) (i) has the legal authority to participate in the RFP process and enter into a Contract following the selection of the Proponent by PREPA, (ii) validly exists, and for a Proponent consortium only, has the legal authority to bind all of the Other Members of such consortium for purposes of the RFP process and the finalization, execution, delivery and performance of such Contract, and (iii) has no conflict of interest with PREPA and, for a Proponent consortium only, the Other Members have no conflict of interest with PREPA, as of the date of such certification; and
- c. any other information which the Proponent believes would be useful for PREPA in respect of its evaluation of its corporate structure, organizational technical or financial capability and experience.

4.7 Section Six: Timeline

Each Proponent shall provide (i) a detailed plan to achieve COD within twenty-four (24) months from the Contract's execution date, and (ii) a monthly milestone schedule showing the most important tasks to be completed from Contract execution to COD along with a development plan description. As described in Section 1.8 (*General Requirements*), PREPA seeks project proposals that can achieve COD within twenty-four (24) months from the Contract's execution date. PREPA may consider proposals with forecasted COD not to exceed thirty (30) months from the Contract's execution date, but to a lesser extent. PREPA will attribute a higher score in the RFP evaluation process to shorter project development period.

4.8 Section Seven: Safety Performance

Each Proponent and its Team Member(s) must demonstrate (i) their ability to address and resolve safety issues, and (ii) their knowledge of safety strategies and methodologies. Any Proponent and its Team Member(s) claiming experience in utility or power project development and management must submit copies of Occupational Safety and Health Administration (OSHA) 300 forms for the past three (3) years, only as related to electric utility operations or project development and construction activities. If not applicable, a Proponent and its Team Member(s) must present a document explaining the reasons for not submitting such form.

4.9 Section Eight: Project Development Summary

If a Proponent has begun developing an Energy Resource in Puerto Rico, then such Proponent should provide a high-level description and summary of such project in the form set forth in Schedule A (*Project Description*) of Appendix D (*Proposal Data Forms*). PREPA shall consider any submission provided in response to this requirement as non-binding on such Proponent and for information purposes only.

5. PROPOSAL SUBMISSION REQUIREMENTS

Each Proponent shall submit their proposal in response to this RFP in English prior to 8:00 pm Atlantic Standard Time on the Proposal Submission Deadline. PREPA shall not reimburse a Proponent, and each Proponent shall remain responsible, for any cost incurred as part of the preparation or submission of a proposal, the finalization, execution and delivery of any Contract and/or any other activity contemplated by a proposal or this RFP. PREPA has provided the information in this RFP, on PREPA's RFP website and on the event No. [•] on PowerAdvocate® to assist Proponents in evaluating this RFP. This RFP does not purport to contain all information, required by Proponents to satisfy their due diligence requirements.

5.1 **Proposal Organization**

By submitting a proposal pursuant to this RFP, each Proponent acknowledges and agrees that (i) PREPA will rely on the representations contained in such proposal during its evaluation and consideration of such proposal, and (ii) such Proponent's inability to substantiate and verify any such representations may result in the termination of further consideration and/or evaluation of its proposal(s) and the right of PREPA to claim the entire face amount of the Proposal Security. Each Proponent shall ensure the truth, accuracy and completeness of all such representations to the best of such Proponent's knowledge and belief after due inquiry into the subject of such representations.

All proposals shall include the following minimum components in the order provided:

- a. Proposal Completeness Checklist (see Appendix C (*Form of Proposal Completeness Checklist*));
- b. Project Description (see Schedule A (*Project Description*) of Appendix D (*Proposal Data Forms*));

- c. Qualitative Assessment (see Schedule B (*Qualitative Assessment*) of Appendix D (*Proposal Data Forms*));
- d. Pricing Proposal (see Schedule C (*Price Proposal*) of Appendix D (*Proposal Data Forms*));
- e. Energy Production Forecast (see Schedule D (*Energy Production Forecast*) of Appendix D (*Proposal Data Forms*));
- f. Guaranteed Performance (see Schedule E (*Guaranteed Performance*) of Appendix D (*Proposal Data Forms*));
- g. Suppliers for Major Plant Equipment (see Schedule F (Supplier for Major Plant Equipment) of Appendix D (Proposal Data Forms)); and
- h. Interconnection Data (see Appendix J (Interconnection Request Data Forms)).

5.2 **Proposal Content**

For consideration in the evaluation process, proposals must contain the information outlined in the following sections:

- a. (**Project Description**) Proponents shall provide a description of their proposed project, using the forms in Schedule A (*Project Description*) of Appendix D (*Proposal Data Forms*), covering the following categories to the extent applicable to such project:
 - i. basic project description, including (a) project name; (b) site location (including map and site layout); (c) technology; (d) generating or discharge capacity; (e) MTR compliance strategy; (f) grid connection point and electrical one-line diagrams; (g) ancillary service capabilities; (h) forecasted COD; and (i) ownership structure;
 - ii. site ownership, usage, and development status;
 - iii. current status of issuance of all permits, licenses and other authorizations required for the implementation of the project;
 - iv. a detailed operation and maintenance plan, covering the proposed supply term;
 - v. environmental permitting plan addressing all potentially applicable environmental permits (federal and local) including the following, as applicable:
 - 1. list of potentially applicable permits evaluated or to be evaluated;
 - 2. result of applicability analysis for each potentially applicable permit or status of evaluation; and
 - 3. planned approach to obtain applicable permits including the following:
 - A. list of key activities necessary to obtain each applicable permit(s) and associated timing;

- B. identification of key individuals or consultants; and
- C. experience of those individuals in specific jurisdictions of project;
- vi. transmission or distribution upgrade plans, as applicable, demonstrating compliance with the requirements of Regulation 8915 or Regulation 8916, as applicable, status of interconnection or transmission service requests, and status of related agreements and approvals;
- vii. a detailed description and drawings of transmission or distribution and substation facilities associated with the proposed project, and descriptions of any special protection schemes associated with the resource and their use. PREPA requires Energy Resources that offer operational flexibility. Proponents must provide a detailed description of the scheduling or dispatch process, ramp rates, automatic generation control, existing or planned Inter-Control Center Protocol ties to PREPA and any energy magnitude and duration limitations. Proponents must also describe the capability, if any, of the resource to provide reactive support ancillary service and dynamic reactive reserve;
- viii. Proponent's design and development experience with the proposed technology or, in the case of Proponents of VPPs, with the aggregation of multiple energy supply, storage or controllable load resources into a VPP;
- ix. Proponent's operating experience with the proposed technology or, in the case of Proponents of VPPs, with the aggregation of resources into a VPP and the management of such resources effectively to provide capacity and energy in response to utility dispatch instructions;
- x. financing plan, including (a) sources of debt and equity; (b) equity percentage by sponsor; (c) financing rates and other terms; (d) level of commitment by potential lenders for construction financing and permanent financing; and (e) tax credit qualifications;
- xi. Proponent's management team and key individuals responsible for permitting, financing, design, construction, and operation; and
- xii. major milestone schedule, including provisions for (a) site acquisition, control, and development; (b) permitting and licensing; (c) transmission or distribution upgrades and interconnection, if applicable and as relevant to the project location; (d) financing; (e) engineering, procurement, and construction; and (f) testing.

For each of the above categories, each Proponent shall provide references to any supporting documents or attachments.

b. (Initial Scoring Criteria) Proponents shall complete the initial scoring criteria form in Schedule B (*Qualitative Assessment*) of Appendix D (*Proposal Data Forms*).

- c. (**Price Proposal**) Proponents shall complete the forms in Schedule C (*Price Proposal*) of Appendix D (*Proposal Data Forms*). Each Proponent shall submit price proposals for each category of price below that relates to its proposal:
 - i. For Renewable Energy Resource proposals, the "*Peak Base Rate*" and "*Off-Peak Base Rate*," each as defined in the relevant Final Proposal Version of Contract, representing the unit price of electricity, expressed in dollars per kWh, for the corresponding hours of a day.
 - ii. For Energy Storage Resource proposals,
 - A. the "*Capability Payment Price*" or "*CPP*" as defined in the relevant Final Proposal Version of Contract, representing the monthly price of Energy Storage Resource capacity, expressed in dollars per MW-Month of discharge capacity; and
 - B. the "*Variable O&M Price*" or "*VOMP*" as defined in the relevant Final Proposal Version of Contract, representing additional compensation for variable usage of the Facility, expressed in dollars per MWh of discharge energy.
 - iii. For VPP proposals,
 - A. the "*Demand Build Price*" or "*DB*\$" as defined in the relevant Final Proposal Version of Contract, representing the monthly price of Demand Build Services, expressed in dollars per kW-Month; and
 - B. the "*Demand Reduction Price*" or "DR\$" as defined in the relevant Final Proposal Version of Contract, representing the monthly price of Demand Reduction Services, expressed in dollars per kW-Month.
 - C. the cost to install communication and metering systems that will enable the T&D Operator to issue dispatch instructions to the VPP aggregator or its agent.
- d. (**Performance**) Proponents shall specify performance for the project using the forms in Schedule D (*Energy Production Forecast*) and Schedule E (*Guaranteed Performance*) of Appendix D (*Proposal Data Forms*), as applicable.
 - i. (Renewable Energy Resources) For Renewable Energy Resource proposals, the Energy Production Forecast in Schedule D (*Energy Production Forecast*) of Appendix D (*Proposal Data Forms*), shall indicate, as applicable given the nature of the proposed resource (i.e., solar PV, wind or hydro), the forecasted P10, P50, and P90 annual energy forecast in MWh for each day and hour (8,760 entries). The forecasted values shall account for long-term performance degradation where applicable.

- ii. (Energy Storage Resources) For Energy Storage Resource proposals, the guaranteed performance in Schedule E (*Guaranteed Performance*) of Appendix D (*Proposal Data Forms*) shall indicate:
 - A. Guaranteed Capacity (MW/ MWh);
 - B. Peak Charging Time (hours);
 - C. Peak Discharging Time (hours);
 - D. AC-AC Round Trip Efficiency (%); and
 - E. Equivalent Availability Factor (%).

The guaranteed values shall account for long-term performance degradation.

- e. (Suppliers of Major Plant Equipment) Proponents shall indicate the anticipated suppliers, models, and countries of manufacture for major plant equipment using the forms in Schedule F (Supplier for Major Plant Equipment) of Appendix D (Proposal Data Forms).
- f. (**Financing**) Proponents must provide specific evidence demonstrating their ability to raise financing.
- g. (Ownership/Control of Site) Each Proponent shall submit a certificate, signed by a dulyauthorized representative, relating to access to, and control over, each parcel of land forming part of the site of such Proponent's proposed Energy Resource in the form set forth Appendix S (*Form of Site Control Certificate*).
- h. (10-Year O&M Cost Breakdowns) For Energy Resource proposals other than a Demand Resource proposal, the Proponent shall submit a detailed breakdown of the fixed and variable costs to operate and maintain the proposed resource in ten (10) year increments during the supply period.
- i. (Business Continuity Plan) Each Proponent shall submit a business continuity plan, detailed by scenario, with the aim of ensuring service continuity during all identified potential threats to the operation of the proposed resource, including the occurrence of bomb threats, war, hurricanes, tornadoes (including waterspouts), earthquakes, tsunamis, active shooters, pandemics and other threats to public health and plane crashes.
- j. (Legal Proceedings) Each Proponent must submit a summary of all legal proceedings, claims, actions, or suits against the Proponent, the Resource Provider, the guarantor, or involving the facility or site.

5.3 **Disqualification of Proposals**

Notwithstanding any other provision of this RFP, PREPA reserves the right without qualification and in its sole discretion, to reject any and/or all proposals for any reason whatsoever and to

consider alternatives outside of the RFP process. PREPA may disqualify or reject a Proponent's proposal(s) for any reason, at PREPA's sole discretion, including but not limited to the following:

- a. failure to comply with any of the requirements of this RFP, including timelines, form sheets, the communication protocol set forth in Section 2.1 (*Communications*) or any other requirements;
- b. any misrepresentation, intentional non-disclosure or withholding of information in the SOQ;
- c. any effort towards influencing the process of qualification or in relation to decision concerning the qualifications of a Proponent or its designated Resource Provider;
- d. failure to disclose additional information relating to the Proponent's experience, even upon reasonable request and such information being deemed necessary to properly evaluate the Proponent's qualifications;
- e. failure in reporting any material changes in information provided in the SOQ following submission thereof;
- f. determination by PREPA that public policy, the national interest or any other grounds prohibit a Proponent or its designated Resource Provider from doing business with PREPA;
- g. if the Proponent or Resource Provider, as applicable, has overdue debts (in a material amount) or significant contingent liabilities;
- h. if the Proponent or Resource Provider, as applicable, has entered into bankruptcy or a courtordered administration or has entered into an arrangement with its creditors or has suspended business activities;
- i. if the Proponent or Resource Provider, as applicable, is the subject of proceedings for a declaration of bankruptcy, for an order for compulsory winding up or administration by the court, or an arrangement with creditors or has suffered any other analogous event;
- j. if the Proponent or Resource Provider, as applicable, has been convicted of an offence that concerns its professional misconduct in the course of its business or profession;
- k. if the Proponent or Resource Provider, as applicable, holds an ownership interest in any member of the advisors or consultants supporting P3A, PREPA, the Energy Bureau or FOMB;
- 1. non-declaration of a conflict of interest or potential conflict of interest resulting from previous or existing contracts or relationships, which affects, or may affect, its potential participation; or
- m. Proponent's failure to submit a replacement Proposal Security prior to the expiration of its then current Proposal Security.

Where one or more Person(s) have established a new company specifically incorporated for participating in the RFP process as a Proponent, any disqualification shall apply to such Person(s) as well as the Proponent. PREPA may disqualify a proposal at any point in the evaluation process if PREPA determines, at its discretion, that the Proponent or its designated Resource Provider has attempted to gain an advantage through conduct deemed as unethical, a conflict of interest, by interference, or any such means. By submitting a proposal in response to this RFP, each Proponent certifies that (i) it has not divulged, discussed, or compared its proposal with any other Proponent, and (ii) has not colluded whatsoever with any other Proponent or parties with respect to this or other proposals, in each case directly or indirectly through one or more intermediaries. PREPA may reject any proposal if it is perceived that any of these criteria have been violated.

5.4 **Restricted Parties**

As part of this RFP, the following entities will be deemed "**Restricted Parties**" and neither they nor their respective directors, officers, partners, employees and persons, or legal entities related to them are eligible to participate as team members or to otherwise assist any Proponent, Resource Provider or other team member, directly or indirectly, or participate in any way as a director, officer, employee, advisor, counsel, accountant or other consultant or otherwise in connection with any Proponent. Each Proponent will ensure that each team member does not use, consult, include, or seek advice from any Restricted Party. The following have been identified as Restricted Parties:

- a. Ankura Consulting Group, LLC
- b. ATCO Ltd.
- c. Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
- d. Citigroup Global Markets Inc.
- e. Cleary Gottlieb Steen & Hamilton LLP
- f. Díaz & Vázquez PSC
- g. Ernst & Young LLP
- h. Filsinger Energy Partners
- i. Greenberg Traurig, LLP
- j. Guidehouse, Inc.
- k. Hogan Lovells US, LLP
- 1. Innovative Emergency Management, Inc.
- m. King & Spalding, LLP
- n. LUMA Energy, LLC

- o. McKinsey & Company, Inc.
- p. Navigant Consulting, Inc.
- q. Nixon Peabody LLP
- r. O'Melveny & Myers LLP
- s. O'Neill & Borges LLC
- t. Proskauer Rose LLP
- u. Quanta Services, Inc.
- v. Sargent & Lundy, LLC
- w. Sargent & Lundy Puerto Rico, LLC
- x. Siemens Industry, Inc.

Proponents should be aware that the list of Restricted Parties is not exhaustive and that a person that is not included as a Restricted Party may still be prohibited from participating in the proposal and project. Finally, except as to any Restricted Party, the fact that a person provides or has provided services to P3A, PREPA, the Energy Bureau or FOMB in matters not related to the proposal and project may not automatically prohibit such person from participating in the proposal and project. To the extent any question exists as to whether such a person is a Restricted Party, the Proponent should consult with PREPA.

6. **PROPOSED PROJECT EVALUATION**

PREPA shall evaluate a Proponent's proposal(s) in the following three (3) phases:

- a. Phase I: Quality Control Review;
- b. Phase II: Project Committee Review and Recommendation; and
- c. Phase III: Interconnection Evaluation and Contract Documentation.

The following sections further describe the proposal evaluation process.

6.1 **Phase I: Quality Control Review**

PREPA's quality control review will use the information supplied by the Proponents in the SOQ and each proposal. Each Proponent shall provide the information listed in the Proposal Completeness Checklist by the Proposal Submission Deadline to be included in the evaluation.

During the quality control review, PREPA will determine which proposals satisfy the minimum requirements outlined in Section 3 (*PROPONENT QUALIFICATION REQUIREMENTS*) and Section 4 (*SOQ SUBMISSION REQUIREMENTS*) of this RFP. PREPA (i) will reject any proposal

that fails to comply with the Financial and No Disbarment Criteria, and (ii) reserves the right to reject any proposal for any reason whatsoever regardless of whether such proposal complies with such requirements in accordance with Section 5.3 (*Disqualification of Proposals*), in each case without scoring, and any such proposal will not advance to the next phase. PREPA will notify each Proponent whether PREPA selected its proposal(s) for Phase II evaluation.

Following such notification (i) PREPA will publish a list of price proposals for each technology group that will advance to Phase II on its website (including the Weighted-Average LCOE and Weighted-Average LCOS as applicable) and (ii) the Proponent of each selected proposal shall deliver / remit to PREPA (as applicable):

- a. the Proposal Security;
- b. Proponent's Proposed Execution Version of Contract;
- c. for solar PV Energy Resource and Energy Storage Resource proposals, an aggregate dynamic mathematical model in PSS/Ev33 format (.dyr file) for such resource as further specified in Section 8 (*Dynamic Models*) of Part B (*Full Interconnection System Impact Study Data*) of Appendix J (*Interconnection Data Request Forms*) of the RFP; and
- d. for each parcel of land that will form part of the Proponent's site for a proposed Energy Resource (other than a VPP), a certified true and correct copy of any one of the following three (3) sets of documents:
 - i. the deed of title in such parcel of land, which identifies the Resource Provider as the registered title holder of such parcel:
 - ii. (A) lease agreement, evidencing that the Resource Provider holds leasehold rights in such parcel of land, and (B) the deed of title in such parcel of land, which identifies the lessor as the registered title holder of such parcel; or
 - (A) a Land Option Agreement, relating to such parcel of land, and (B) the deed of title in such parcel of land, which evidences that the registered title holder of such parcel has executed and delivered such agreement; and

in each case within seven (7) Business Days of such Proponent's receipt of notification of such selection.

6.2 **Phase II: Project Committee Review and Recommendation**

PREPA will divide Phase II into qualitative and pricing evaluation sub-phases, as follows:

a. (Qualitative Evaluation) In connection with its qualitative evaluation, PREPA will conduct Feasibility Studies and independently model interconnection and system upgrade costs, where possible analyzing clusters of potential projects, based on an initial selection of RFP responses that PREPA ranks high on its list of projects eligible for contracting. In addition, PREPA will evaluate the extent to which multiple projects have proposed or can be made to share the same interconnecting facility, if reasonable and applicable for any

given set of proposals. PREPA shall give priority to those proposals that provide resource installations at or technically close to the indicated priority locations. PREPA will evaluate the impact of each proposed resource on the T&D System and will endeavor to notify Proponents whose proposals will require additional network upgrades. The Proponents' proposal should include the Imputed Estimated Interconnection Costs.

- i. (**Process**) PREPA and its advisors shall perform the initial screening and shortlisting of proposals in Phase II, according to a qualitative evaluation. This evaluation will consist of the following steps:
 - A. verification that a Proponent has provided all information listed in the Proposal Completeness Checklist;
 - B. organization of the proposals into groups according to (i) the proposed technology, and (ii) groups that will allow for distributed generation benefits to be recognized, for resiliency and for avoided T&D System cost purposes (each, a "**Resource and Technology Group**");
 - C. review of information supplied by the Proponents in the forms set forth in Schedules A F of Appendix D (*Proposal Data Forms*);
 - D. development of a qualitative score according to the information supplied by each Proponent in Schedule B (*Qualitative Assessment*) of Appendix D (*Proposal Data Forms*) for the proposed type of Energy Resource and technology, based on the qualitative evaluation criteria specified below;
 - E. development of an initial qualitative score according to the information supplied by the Proponent for the proposed technology. The qualitative score will be based on technical viability, development status, developer experience, and financing plan and qualifications. PREPA will prefer projects with faster installation timelines, and those with better technical locations for interconnection purposes;
 - F. calculation of the composite Phase II score from the weighted qualitative score; and
 - G. development of a list of preferred proposals from the highest scoring proposals within each technology category.
- ii. (Evaluation Criteria) The Phase II qualitative evaluation will assess the information supplied by the Proponent in the proposal data forms contained in the RFP. PREPA will consider the following criteria during the qualitative evaluation:
 - A. **Technical Viability**: The evaluation team will review each proposal for conformance to the applicable MTR.
 - B. **Development and Schedule Risk**: The evaluation team will assess the completeness and feasibility of the proposed project implementation and

evaluate the likelihood of meeting the milestone dates and expected performance.

- C. **Permitting Risk**: The evaluation team will examine each Proponent's permitting plan and schedule and the likelihood that such Proponent can obtain the required permits. This examination will include an assessment as to whether Proponents have identified the relevant permits and approvals necessary for construction and operation of the proposed project.
- D. **Environmental Impacts**: The evaluation team will assess the proposed project's overall impact on the environment, whether the project will likely result in potentially significant environmental impacts, and the degree to which potential impacts can be satisfactorily mitigated. This will include an examination of any known sensitive environmental features on or adjacent to the site such as waterways, wetlands, floodplains, archaeological and architectural resources, historic properties, degraded ambient air quality, contamination, ongoing hazardous materials remediation, threatened and endangered species, airports, residences or other sensitive noise receptors, and a discussion of storm-resistant features and other reliability features to determine the suitability of the project at the proposed site location.
- E. **Experience**: The evaluation team will evaluate the Proponent's experience and success in developing projects of a similar design and size to the proposed project.
- F. **Debt Financing Plan and Qualifications**: The evaluation team will evaluate the Proponent's proposed debt financing plan and experience in successfully financing projects of a similar size and complexity. The evaluation team will also assess whether a Proponent has obtained debt financing commitments for the project from one or more creditworthy lenders, reasonably acceptable to PREPA.
- G. **T&D System Integration**: The evaluation team will assess each project's technical characteristics and identify those projects that address the T&D System's needs as defined in this RFP and IRP. The evaluation team will evaluate the degree to which the project proposal appears to comply with the requirements of Regulation 8915 or Regulation 8916, as applicable, as well as the risk associated with the interconnection of the proposed project to grid reliability (voltage control, reactive capability, protection coordination, frequency response, etc.) and deliverability to the T&D System.
- H. **Site Control**: The evaluation team will assess whether a Proponent owns or leases the project site (and, in the case of a lease, will consider the alignment of the term of such lease with the term of the applicable Contract) or otherwise has the ability to obtain control over, and access to, such site prior to the occurrence of the "*Guaranteed Construction Start Date*" set forth in

the template Contract. This evaluation criteria does not apply to proposals for VPPs.

- I. **Community Impacts and Acceptance**: The evaluation team will review a Proponent's proposal(s) for potential socioeconomic benefits and harm to the community. The evaluation team will assess known community support for or opposition to a proposed project, as well as such Proponent's plan to manage community relations.
- J. **Operations and Maintenance Plan**: The evaluation team will assess information about a Proponent's operations and maintenance plan for the proposed project set forth in Schedule A (*Project Description*) of Appendix D (*Proposal Data Forms*), including contract term, scope, experience, and pricing. Proponents proposing a VPP as a resource should provide detailed information concerning their plans to identify, aggregate and contract for individual generation and storage resources that will be dedicated to such resource.
- K. Additional Benefit of VPPs: The evaluation team will consider and evaluate the additional benefits that distributed resources procured as part of a VPP may provide, including (i) the potential to avoid transmission and distribution costs (including T&D System losses), (ii) the possible enhancement of local resiliency by serving critical or priority loads, and (iii) the potential for completion of any required installation in shorter periods, or more immediate availability as a capacity resource based on an existing installation, than would be true of a new-build project.

PREPA will evaluate the impact of the following categories on a Proponent's ability to deliver the proposed project on a timely basis:

Item	Category / Criteria
А	Technical Viability
В	Development and Schedule Risk
С	Permitting Risk
D	Environmental Impacts
Е	Contractor Experience
F	Financing Plan and Qualifications
G	T&D System Integration

Table 6-1 - Qualitative Evaluation

Item	Category / Criteria
Н	Site Control
Ι	Community Impacts and Acceptance
J	Operations and Maintenance Plan
K	Additional Benefit of VPP
L	Contract Exceptions (if applicable)

As it performs its qualitative evaluation, PREPA may request additional information or clarifications from Proponents. These requests, and any communications with a Proponent during the qualitative evaluation process, shall not be construed as contract negotiations. PREPA shall request for additional information or clarification in writing via email and a Proponent shall have five (5) Business Days from the transmission of each request to respond. Proposals with outstanding requests beyond the response period, or material red flags on the foregoing criteria, may be removed from consideration and further evaluation.

- b. (**Pricing Evaluation**) The Phase II evaluation will determine the cost effectiveness of the shortlisted proposals. This detailed pricing evaluation will include and reflect information received in response to any clarifying questions, interviews, site visits, and other due diligence, and will consider the all-in costs that each proposal will likely impose on Rate-payers, to the extent that the evaluation team can quantify such costs. Such all-in costs include:
 - i. contract charges, including pass through costs;
 - ii. costs for required transmission reinforcements;
 - iii. costs for required distribution reinforcement;
 - iv. system impacts including, but not limited to, impact on transmission transfer capability, and PREPA capacity requirements and deliverability; and
 - v. LCOE or, in the case of Energy Storage Resources, LCOS and in each case calculated based on the Imputed Estimated Interconnection Costs and all other variables provided in the Proponent's initial proposal.

The lowest LCOE / LCOS (as applicable) within each Resource and Technology Group will receive one hundred percent (100%) of the LCOE / LCOS points available (450 points). Each of the remaining proposals within such Resource and Technology Group will receive a fraction of such points available with such fraction determined by dividing the lowest LCOE / LCOS (as applicable) by the LCOE / LCOS of each remaining proposal.

PREPA will also give preference in its evaluation to Proponents whose proposals consider the future emergence of PREPA from protection under PROMESA and contain a downward price adjustment mechanism that would reflect PREPA's improved credit quality at such time.

Overall, the Phase II evaluation will score proposals based on the following criteria:

Category	Points Available	
LCOE / LCOS	450	
Technical Viability	130	
Development Status	180	
Proponent's Experience	130	
Financing Plan and Qualifications	110	
Total	1,000	

 Table 6-2 - Phase II Evaluation Scoring

Following completion of the pricing evaluation, PREPA will select proposals for Phase III evaluation and notify each Proponent whether its proposal will advance to Phase III. Proponents shall not construe the selection of a proposal for Phase III as a commitment by PREPA to execute a Contract.

6.3 **Phase III: Interconnection Evaluation & Contract Documentation**

Following PREPA's selection of proposals for Phase III (each, a "Selected Proposal"), PREPA will, for each Selected Proposal, (i) request that the Proponent participate in the following process to contextualize and complete the specifics of the Contract documents relating to the Selected Proposal(s) ("Contract Documentation Process"), (ii) for all proposed Utility-Scale Resources, conduct a System Impact Study followed by a Facility Study to identify the project proposals which PREPA can interconnect with the T&D System at an acceptable cost ("Interconnection Evaluation"), and (iii) for VPPs, conduct an assessment of the T&D Operator's ability to communicate with such resource for purposes of dispatching the proposed VPP, in each case in three parallel work streams. As part of completing the System Impact Study and Facility Study, PREPA may also conduct additional diligence, which may include management interviews, environmental legal and regulatory due diligence, detailed engineering assessments and facility dispatch modelling.

The Contract Documentation Process for each Selected Proposal will occur in the following steps:

- **STEP 1**: PREPA will issue a notice of selection for Phase III evaluation (the "**Selection Notice**") for each Selected Proposal. In the Selection Notice, PREPA will invite the Proponent of each Selected Proposal to attend at least one meeting to discuss the documentation of a Contract for each such Selected Proposal ("**Scheduled Meeting**"). Each Proponent will have a thirty (30) day period from the first date of the Scheduled Meeting (or the date of the first Scheduled Meeting if more than one) to agree with PREPA on the final form of, and arrange of the Resource Provider to sign, such Contract;
- **STEP 2**: As part of the Selection Notice, PREPA will present the Proponent with (i) PREPA's Estimated Costs for the interconnection of each Energy Resource proposed, (ii) the weighted average first-year pricing information for the corresponding Resource and Technology Group, (iii) the Weighted Average LCOE, and (iv) the Weighted Average LCOS. PREPA will invite such Proponent to submit its best and final price proposal offer (the "**Best and Final Offer**"), and such offer must consider the foregoing information (as applicable);
- **STEP 3**: PREPA will notify the Proponent if PREPA accepts the Best and Final Offer for such proposal. After receiving such notification, the Contract Documentation Process will continue and PREPA will update the applicable Contract(s) to reflect the terms of the accepted offer(s). Upon successful completion of the Contract Documentation Process, the Proponent will arrange for the execution and delivery of the applicable Contract(s) by the relevant Resource Provider(s). PREPA will then execute and deliver such Contract(s) upon the satisfaction of all signing conditions set forth in Appendix B of such Contract(s), including required approvals. If PREPA rejects a Best and Final Offer, PREPA will inform the Proponent of its determination to discontinue the Contract Documentation Process, for the corresponding Proposal; and
- **STEP 4**: Following the completion by PREPA of the System Impact Study and Facility Study for Utility-Scale Resource and the assessment of dispatch communications for VPPs (as applicable), related to such each Selected Proposal, PREPA will determine in its sole discretion whether the proposed project will serve the best interests of Rate-payers as evidenced by the findings of such studies and inform such Proponent whether PREPA rendered a positive determination (the "**Best Interest Determination**") for each such proposal. PREPA must (i) complete the System Impact Study and Facility Study for each Utility-Scale Resource proposal, and (ii) complete its assessment of the dispatch communication for each VPP, in each case before it can finally determine whether to issue a Best Interest Determination.

PREPA will determine whether to accept a Best and Final Offer made by the Proponent of a proposal, based on (as applicable) the competitiveness of the Best and Final Offer LCOE, in respect of Renewable Energy Resources, or the competitiveness of the Best and Final Offer LCOS, in respect of Energy Storage Resources or VPPs (as applicable).

Each Best and Final Offer LCOE or Best and Final Offer LCOS should not exceed the corresponding LCOE or LCOS (as applicable) calculated based on the Imputed Estimated Interconnection Costs and initial proposal as part of the Phase II pricing evaluation (other than as a result of PREPA's Estimated Costs).

Notwithstanding the execution and delivery of a Contract by a Resource Provider and/or by PREPA, the main provisions of such Contract will not enter into full force and effect until the satisfaction of a number of conditions precedent, including the issuance by PREPA of a Best Interest Determination.

Proponents selected for Phase III should also continue to provide any clarifying and/or supplementary information that PREPA may request during the Phase III evaluation. Failure to provide such information may affect the Phase III interconnection evaluation, VPP assessment and/or Contract Documentation Process.

A Proponent of a proposal selected by PREPA for Phase III evaluation shall have the right to withdraw such proposal from the RFP process and collect its Proposal Security from PREPA in the event that PREPA fails to notify such Proponent of its determination whether to issue a Best Interest Determination within [•] calendar days of the date on which the Resource Provider signs the Contract for such proposal.

6.4 **Proposal Data Forms**

The evaluation will use the information supplied by the Proponents in the proposal data forms and template Contracts contained in the Appendices of this RFP:

Appendix D – Proposal Data Forms

Schedule A – Project Description

Schedule B – Qualitative Assessment

Schedule C – Price Proposal

Schedule D – Energy Production Forecast

Schedule E – Guaranteed Performance

Schedule F – Suppliers for Major Plant Equipment

Appendix F – Form of Solar PPOA

Appendix G – Form of ESSA for Standalone Energy Storage Resources

Appendix J – Interconnection Data Request Forms

Appendix Q – Form of Grid Services Agreement

Appendix R – Form of ESSA for ITC Compliant Energy Storage Resources

6.5 [Intentionally Omitted]

6.6 **Proposal Security**

Upon its receipt of a notice confirming that PREPA has selected a Proponent's proposal for evaluation during Phase II, each selected Proponent shall deliver the Proposal Security with a face amount equal to the product of \$10,000 per MW multiplied by the aggregate maximum generating capacity or discharge capacity of the proposed Energy Resource(s) (as applicable) to PREPA within seven (7) Business Days of the date of such receipt and maintain such Proposal Security in full force and effect through the Bid Expiration Date (as defined below). The following guidelines shall apply to the delivery of Proposal Security under this RFP:

- a. To the extent that a Proponent desires to submit an irrevocable stand-by letter of credit or a bid bond as the Proposal Security in a form that departs in any material way from the form set forth in Appendix H (*Form of Irrevocable Stand-By Letter of Credit*) or Appendix P (*Form of Bid Bond*), such Proponent shall obtain PREPA's approval for such departure prior to the Proposal Submission Deadline.
- b. To the extent that a Proponent proposes two (2) or more non-co-located, standalone Energy Resources in a proposal, the Proponent shall deliver a separate Proposal Security for each proposed Energy Resource.
- c. To the extent that a Proponent proposes Co-Located Standalone Resources, Co-Located ITC Compliant Resources or Co-Located Integrated Resources, the Proponent shall deliver one (1) Proposal Security with a face amount determined on the basis of (i) for Co-Located Standalone Resources and Co-Located ITC Compliant Resources, the sum of the proposed generation capacity and discharge capacity of such co-located resources, and (ii) for Co-Located Integrated Resources, the proposed generation capacity of the Renewable Energy Resource component of such proposal, in each case measured at the point of electrical interconnection with the T&D System.
- d. In the event that a Proponent proposes to deliver just one (1) Energy Resource from a number of alternative resource options, the Proponent should deliver one (1) Proposal Security with a face amount, determined on the basis of the proposed resource with the highest generating capacity or discharge capacity.

PREPA shall reject as non-responsive any proposal selected for Phase II not accompanied by an acceptable Proposal Security. PREPA will return each Proponent's Proposal Security as promptly as possible upon the earliest to occur of the date (the "**Bid Expiration Date**") of (i) PREPA's determination not to select Proponent's proposal for evaluation during Phase III, (ii) PREPA's determination not to issue a Best Interest Determination for such Proponent's proposal, (iii) PREPA's determination not to accept such Proponent's Best and Final Offer, (iv) the satisfaction and/or waiver of all conditions precedent required for the full effectiveness of the Contract with such Proponent, and (v) the discontinuation by PREPA of the RFP process. For each Proposal Security submitted by a Proponent, PREPA shall have the right to draw down on / recover the entire face amount of such security upon the occurrence of any of the following events:

- aa. such Proponent withdraws (or carries out any act or omission that evidences its intent to withdraw) any part, or all, of its proposal prior to the Bid Expiration Date;
- bb. PREPA determines, in its sole discretion, that the proposal submitted by such Proponent contains a false statement or material misrepresentation;
- cc. in the event that PREPA selects the proposal of such Proponent for evaluation, during Phase III, such Proponent fails to execute a Contract with PREPA in respect of such proposal within thirty (30) days of the date on which PREPA first commenced negotiations of a Contract with such Proponent as provided under Section 6.3 (*Phase III: Interconnection Evaluation & Contract Documentation*) for any reason whatsoever; and
- dd. a Proponent, which has executed a Contract with PREPA, breaches its obligation to satisfy conditions precedent thereunder.

6.7 **Ownership** / Control of Site

Upon its receipt of a notice confirming that PREPA has selected a Proponent's proposal relating to an Energy Resource other than a VPP, for evaluation, during Phase II, such Proponent shall deliver to PREPA within seven (7) Business Days of the receipt date, for each parcel of land that will form part of the proposed project site, any one of the following three (3) document packages:

- a. a certified true and correct copy of the deed of title in such parcel of land, which identifies the Resource Provider as the registered title holder of such parcel;
- b. (i) lease agreement evidencing that the Resource Provider holds leasehold rights in such parcel of land, and (ii) the deed of title in such parcel of land, which identifies the lessor as the registered title holder of such parcel; or
- c. (i) a Land Option Agreement relating to such parcel of land, and (ii) the deed of title in such parcel of land, which evidences that the registered title holder of such parcel has executed and delivered such agreement.

6.8 **Reservation of Rights**

Nothing contained in this RFP shall be construed to require or obligate PREPA to select any proposals or limit PREPA's ability to reject all proposals in its sole and exclusive discretion. PREPA further reserves the right to amend, or withdraw and terminate, this RFP at any time prior to the Proposal Submission Deadline, selection of proposals or execution of any Contract. PREPA also reserves the right to solicit additional proposals it deems necessary and the right to submit additional information requests to Proponents during the proposal evaluation process. The effectiveness of each Contract signed by a Proponent will be contingent on regulatory approvals, including the approval of the Energy Bureau and the FOMB.

All proposals submitted to PREPA pursuant to this RFP shall become the exclusive property of PREPA and may be used by PREPA for any reasonable purpose. PREPA shall consider materials provided by Proponents in response to this RFP to be confidential only if such materials are clearly designated as *confidential*. Proponents should be aware that their proposal, even if marked

confidential, may be subject to discovery and disclosure in regulatory or judicial proceedings that may or may not be initiated by PREPA. A Proponent may be required to justify the requested confidential treatment under the provisions of a protective order issued in such proceedings. If required by an order of an agency or court of competent jurisdiction, PREPA may produce the material in response to such order without prior consultation with the relevant Proponent.

This RFP shall not, by itself, give any right to any party for any claim against PREPA. Furthermore, by submitting a proposal, each Proponent shall be deemed to have acknowledged that PREPA assumes no liability with respect to this RFP or any matters related thereto. Each Proponent acknowledges and agrees that PREPA may terminate this RFP at any time and for its convenience without liability to such Proponent, its advisors, consultants, and agents. By submission of a proposal, each Proponent, for itself as well as for its successors and assignees (if any), agrees that, as between such Proponent and PREPA, such Proponent shall have sole responsibility for all claims, demands, accounts, damages, costs, losses, and expenses of whatsoever kind in law or equity, known or unknown, foreseeable or unforeseeable, arising from or out of this RFP or its proposal(s).

PREPA reserves the right to modify this RFP for any reason and at any time prior to the Proposal Submission Deadline. PREPA will notify Proponents of any such modifications.

6.9 **Disclosure of Proposals**

As part of the process of obtaining regulatory approval, PREPA may disclose proposals submitted by Proponents to third parties for the purpose of obtaining such approval.

Appendix A. Form of Notice of Intent to Respond

PROPONENT			
Company Name			
Company Mailing Address			
Primary Contact Information			
Name			
Title			
Phone			
Email			

Proponent's Signature:

Date:

	Appendix B	. Form o	of Request	for	Clarification
--	------------	----------	------------	-----	---------------

Issue #	Items Requiring Clarification	Reference	Clarification Request
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Proponent's Name:

Date:

Each Proponent should (i) check the following boxes to indicate the completeness of its proposal and ensure that such proposal meets the minimum requirements for this RFP, and (ii) submit the completed checklist with such proposal. Proponents have the sole responsibility to review the RFP and ensure that their proposals satisfy all the requirements. PREPA provides this checklist for guidance only and does not guarantee its completeness or accuracy.

No.	Proposal	Check	Reference RFP Provisions	Cross-Reference in Proposal (include document title and page numbers)
1.	SOQ	-	§3, §4	
1.1.	Section One: Executive Summary	-	§4.2, §3, §3.1	
1.1.1.	Proponent qualifications in accordance with Section 3		§3, §3.1	
1.1.2.	Envisaged use (if any) of contractors and Subcontractors		§4.2	
1.2.	Section Two: Corporate Structure	-	§4.3	
1.2.1.	Proponent contact information		§4.3(a)	
1.2.2.	Proponent corporate structure and history		§4.3(b)	
1.2.3.	Proponent parent company contact information		§4.3(c)	
1.2.4.	Proponent information		§4.3(d)	
1.2.5.	Proponent guarantor key information		§4.3(e)	
1.2.6.	Proponent organizational chart		§4.3(f)	
1.2.7.	Resource Provider contact information		§2.9	

1.2.8.	Resource Provider ownership schematic		§2.9	
1.2.9.	Description of technical operational and managerial resources		§4.3(g)	
1.2.10.	Description of level of commitment by O&M and EPC contractors		§4.3(h)	
1.2.11.	Key individuals and roles		§4.3(i)	
1.2.12.	List of advisors		§4.3(j)	
1.2.13.	Team Member resumes		§4.3(k)	
1.3.	Section Three: Technical and Operational Capability	-	§4.4, Table 3-1	
1.3.1.	Reference Project(s)		Table 3-1, 1	
1.3.2.	For each Reference Project, a Reference Project Certification in the form of Appendix O (Forms of Certificate for Minimum Eligibility Requirements)		Table 3-1, 2, 3 and 4	
1.3.3.	For each Reference Project, general information		Table 3-1, 5	
1.4.	Section Four: Financial Capability	-	§4.5	
1.5.	Unrestricted Net Worth		§4.5(a)	
1.6.	Section Five: Other Criteria and Additional Capability	-	§4.6	
1.6.1.	No Disbarment Certification in the form of Appendix O (Forms of Certificate for Minimum Eligibility Requirements)		§4.6(a), Table 3-1	
1.6.2.	Proponent certification		§4.6(b)	

1.6.3.	Any other information Proponent believes would be useful		§4.6(c)	
1.7.	Section Six: Timeline	-	§4.7	
1.7.1.	Detailed plan to achieve COD within 24 months		§4.7(i)	
1.7.2.	Monthly milestone schedule and development plan description		§4.7(ii)	
1.8.	Section Seven: Safety Performance	-	§4.8	
1.9.	Demonstrate ability to address and resolve safety issues and knowledge of safety strategies and methodologies		§4.8	
1.10.	Copies of OSHA 300 forms for the past 3 years		§4.8	
1.11.	Section Eight: Project Development Summary		§4.9, Schedule A of Appendix D	
2.	Proposal	-	§2.9, §5, §5.1	
2.1.	Proposal Completeness Checklist		§5.1	
2.2.	Proposal Data Forms	-	§5.1	
2.2.1.	Project Description		§5.1, Schedule A of Appendix D	
2.2.2.	Qualitative Assessment		§5.1, Schedule B of	

		Appendix D	
2.2.3.	Pricing Proposal	§5.1, Schedule C of Appendix D	
2.2.4.	Energy Production Forecast	§5.1, Schedule D of Appendix D	
2.2.5.	Guaranteed Performance	§5.1, Schedule E of Appendix D	
2.2.6.	Suppliers for Major Plan Equipment	§5.1, Schedule F of Appendix D	
2.3.	Interconnection Request Data Form	§5.1, Appendix J	
2.4.	Ownership / Control of Site	§5.2 (g)	
2.5.	10-year O&M Cost Breakdown	§5.2 (h)	
2.6.	Business Continuing Plan	§5.2 (i)	

2.7.	Legal Proceedings	§5.9 (j)	
2.8.	VPP Specific Requirements	§1.9	

(see technology specific file *Appendix D. Proposal Data Forms.xlsx*)

- Schedule A Project Description
- Schedule B Qualitative Assessment
- Schedule C Price Proposal
- Schedule D Energy Production Forecast
- Schedule E Guaranteed Performance
- Schedule F Suppliers for Major Plant Equipment

This Non-Disclosure Agreement ("**Agreement**") is made this [●] day of [●] 2021, by and between [●], a [●], hereinafter referred to as "**Proponent**", and the Puerto Rico Electric Power Authority, hereinafter referred to as "**PREPA**", a public corporation and government instrumentality of the Commonwealth of Puerto Rico, created by Act 83 of May 2, 1941, as amended. Proponent and PREPA are jointly referred to as the "**Parties**".

- 1. In connection with communications between Proponent and PREPA, relating to (i) the Request For Proposals for Renewable Energy Generation and Energy Storage Resources, Tranche 2 of 6 (as amended, the "RFP") issued by PREPA on June 30, 2021, and (ii) the submission of a proposal by Proponent to make available one or more renewable energy, energy storage or virtual power plant resources in response to the RFP (the "Proposed Transaction"), each party (as to information disclosed by it, "Disclosing Party intends to furnish the other party (as to information received by it, "Receiving Party") with certain confidential and proprietary information concerning the Proposed Transaction. "Confidential Information", as used in this Agreement, shall mean (a) the proposed or final terms of the Proposed Transaction, (b) all information that is disclosed in writing or by e-mail or other tangible electronic storage medium and is clearly marked "Confidential, initially disclosed orally or visually and at the time of disclosure. All other information shall be deemed non-confidential, in each case subject to paragraph (9) below.
- 2. The Receiving Party shall, except as required by law, (a) protect the confidentiality of the Disclosing Party's Confidential Information; (b) use the Confidential Information only for the purposes of evaluating a Proposed Transaction and the terms thereof; (c) use the same degree of care as with its own confidential information to prevent disclosure of the Confidential Information; and (d) not disclose to persons that the Confidential Information has been made available, that the Receiving Party is considering a Proposed Transaction, that the Parties have had or are having discussions or negotiations with respect thereto, or the terms and conditions thereof except to its affiliates, advisors, potential financing sources, representatives, key personnel, and any legal, financial, or technical advisors, whose duties justify their need to review and know such material (collectively, "**Representatives**"), to the extent necessary to permit them to assist the Receiving Party in the evaluation of the Proposed Transaction.
- 3. Notwithstanding anything to the contrary in this Agreement, PREPA shall have the right to disclose Confidential Information to: (a) the Financial Management and Oversight Board, the Puerto Rico Energy Bureau, the United States District Court for the District of Puerto Rico, and any governmental Authority for the purposes of obtaining the consents and approvals of the Proposed Transaction, together with such additional information as may be required to obtain such consents and approvals, (b) the Puerto Rico Public Private Partnerships Authority and any owner or operator, or potential owner or operator, of the T&D System, and their respective advisors and lenders, and (c) the Puerto Rico Comptroller's Office through the filings required by applicable law.

- 4. The Receiving Party shall be responsible at all times for enforcing the confidentiality of the Confidential Information and shall take any commercially reasonable action, of a legal nature or otherwise, to the extent necessary, to prevent any disclosure of the Confidential Information by any of its Representatives, other than as permitted hereby. To the extent known, the Receiving Party agrees to exercise reasonable efforts to notify the Disclosing Party immediately of the date and circumstances of any loss or unauthorized use or disclosure of the Confidential Information of which it receives notice.
- 5. Except as otherwise provided herein, the Receiving Party or its Representatives shall not disclose any Confidential Information to any third party whatsoever without the prior written consent of the Disclosing Party and subject to such terms and conditions as may be required by the Disclosing Party, such consent not be unreasonably withheld. If the Disclosing Party issues a written consent for the disclosure of information to a third party in accordance with this paragraph, the Receiving Party shall:
 - a. inform to such third party of the provisions of this Agreement;
 - b. ensure that such third party first undertakes in writing to comply with the provisions of this Agreement, before any disclosure; and
 - c. take all reasonable steps to ensure that such third party complies with the provisions thereof.
- 6. The Receiving Party shall, at the written request of the Disclosing Party, use commercially reasonable efforts to ensure that the third parties mentioned in the preceding paragraph to whom the Confidential Information is disclosed immediately return any such Confidential Information which is then in existence and provided to that Receiving Party in a written or other permanent form together with any copies thereof.
- 7. Only those representations and warranties that are made in a final written definitive agreement in connection with a Proposed Transaction, when, as and if executed by the Parties (or one or more affiliates thereof), and subject to such limitations and restrictions as may be specified therein, will have any legal effect with respect to the Disclosing Party or its Representatives.
- 8. Each party acknowledges that money damages would not be a sufficient remedy for any breach of this Agreement. Accordingly, in the event of any such breach, in addition to any other remedies at law or in equity that a party may have, it shall be entitled to equitable relief, including injunctive relief or specific performance, or both (although neither party shall be entitled to any special, consequential, indirect, punitive or exemplary damages as a result of a breach of this Agreement, whether a claim is asserted in contract, tort, or otherwise). No failure or delay on the part of either party in exercising any right, power or remedy hereunder shall be construed as a waiver by either party of any such right, power or remedy; nor shall any single or partial exercise of any such right, power or remedy.
- 9. This Agreement shall be inoperative as to particular portions of the Confidential Information disclosed by the Disclosing Party if such information: (a) is or becomes generally available to the public other than as a result of disclosure by the Receiving Party or its Representatives in breach of this Agreement; (b) was available on a non-confidential basis prior to its disclosure to the Receiving Party; (c) is or becomes available to the Receiving Party or its Representatives on a non-confidential basis from a source other than the Disclosing Party when such source is not, to the best of the Receiving Party's knowledge, breaching a confidentiality obligation to the Disclosing Party; or (d) was independently developed by the Receiving Party or its Representatives, without reference to the Confidential Information.
- 10. The Disclosing Party may elect at any time by notice to the Receiving Party to terminate further access to and such party's review of the Confidential Information. In any such case, or upon the expiration of this Agreement, the Receiving Party will promptly return or destroy all Confidential Information disclosed to it. The Receiving Party may nevertheless maintain a single confidential copy in the office of its general counsel of the Confidential Information as a record of the material provided hereunder (provided that such material shall remain subject to the terms of this Agreement), and the Receiving Party shall not be deemed to have retained or failed to destroy any Confidential Information which is in electronic form if such information is deleted from local hard drives so long as no attempt is made to recover such information from servers or back-up sources.
- 11. Each party shall retain ownership of all Confidential Information and intellectual property it had prior to commencement of the discussions and RFP process referred to in this Agreement. Nothing in this Agreement shall be deemed to grant a license directly or by implication, estoppel, or otherwise, although the Parties may provide for such a license in an express written agreement.
- 12. If either party or any of their respective Representatives is requested or required (by interrogatories, subpoena, or similar legal process, binding on the Receiving Party or a binding request of any governmental entity or regulatory agency) to disclose any Confidential Information, such party agrees to provide the Disclosing Party with prompt notice of each such request, to the extent practicable prior to disclosure, so that the Disclosing Party may seek an appropriate protective order or waive compliance by the Receiving Party with the provisions of this Agreement, or both. If, absent the entry of a protective order or receipt of a waiver, the Receiving Party is, in the opinion of its counsel, legally compelled to disclose such Confidential Information or otherwise permitted to disclose such information under this Agreement, the Receiving Party may disclose such Confidential Information to the persons and to the extent required without liability under this Agreement.
- 13. Notwithstanding any provision of this Agreement to the contrary, the legal obligations of confidentiality hereunder do not extend to the U.S. federal or state tax structure or the U.S. federal or state tax treatment of the Proposed Transaction. If any U.S. federal or state tax analyses or materials are provided to any party, such party is free to disclose any such

analyses or materials without limitation.

- 14. This Agreement and the rights and obligations of the parties hereunder shall be governed by and construed in accordance with the laws of the Commonwealth of Puerto Rico.
- 15. This Agreement is not intended to be, nor shall it be construed as constituting an offer by or creating any obligation on either party to enter into any other agreement. No provision herein included shall be interpreted as to create an agency or partnership relationship between the Parties to this Agreement.
- 16. PREPA reserves the right, in its sole discretion, to reject any and all proposals and nothing in this Agreement prohibits PREPA from negotiating, discussing or entering into any Proposed Transaction with any third party. Except with respect to this Agreement and the Proposal Security provided in accordance with Section 6.6 of the RFP, no party shall have any obligation of any kind whatsoever with respect to a Proposed Transaction or to any matters discussed or negotiated unless and until a formal written definitive agreement with respect thereto has been executed and delivered by each party, and no party shall have any liability to the other party in the event of or as a result of the failure of the Parties to execute such a formal written agreement, except with respect to any breach of this Agreement or a call on the Proposal Security.
- 17. Neither party shall assign, in whole nor in part, any of its rights or obligations hereunder, except to an affiliate or successor in interest, without the prior written consent of the other party, which consent shall not be unreasonably withheld. The benefits arising under this Agreement shall inure to the benefit of each of the Parties hereto and their respective successors and permitted assigns. The obligations arising under this Agreement shall be enforceable against each of the Parties hereto and its successors and permitted assigns.
- 18. Unless otherwise specified herein, the rights and obligations of the Parties hereunder shall terminate three (3) years from the date of this Agreement. Notwithstanding anything to the contrary contained herein, if the Parties enter into a substantive written agreement relating to the Proposed Transaction that contains confidentiality obligations, the confidentiality provisions in such definitive agreement shall govern the Confidential Information exchanged by the Parties under this Agreement and this Agreement shall have no further force and effect as of the effective date of such substantive agreement.
- 19. All notices and other communications given under this Agreement shall be given in writing and shall be effective upon receipt by the addressee as provided below, as provided below:
 - To PREPA: Puerto Rico Electric Power Authority PO Box 364267 San Juan, Puerto Rico 00936-4267 Attention: Efran Paredes Chief Executive Officer

To Proponent: [Proponent Name]

[Address Line 1]	
[Address Line 2]	
Attention: []
[Title]	

20. This Agreement sets forth the entire agreement and understanding between the Parties hereto as to the subject matter hereof and merges all prior discussions and negotiations between them. This Agreement may not be modified except in writing executed by duly authorized representatives of both Parties.

[SIGNATURES APPEAR ON THE FOLLOWING PAGE.]

IN WITNESS WHEREOF, the Parties hereto have executed and delivered this Agreement as of the date first above written.

[Proponent Name]

By: Title: Authorized Representative

PUERTO RICO ELECTRIC POWER AUTHORITY

By: Efran Paredes Title: Chief Executive Officer [Attached]

[Attached]

IRREVOCABLE STAND-BY LETTER OF CREDIT

[Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: PUERTO RICO ELECTRIC POWER AUTHORITY Address: [•] Attn:[•]

> Reference No.: [•] Date of Issuance: [•]

[PREPA-[PROPONENT Name] Request for Proposals for Renewable Energy Generation and Energy Storage Systems – Tranche 2] – Proposal Security No. [•]

We understand that [*insert name of PROPONENT*] (the "*Applicant*") has submitted a proposal to you, Beneficiary, dated [•] (as amended, the "*Proposal*") in the context of the Request for Proposals for Renewable Energy Generation and Energy Storage Systems – Tranche 2 ("**RFP-T2**") issued by Beneficiary on [*date*], which requires a Proposal Security in the form and amount of this irrevocable stand-by letter of credit ("*Letter of Credit*").

At the request of Applicant, we [*name of Bank*], hereby issue this Letter of Credit and irrevocably undertake to pay you any sum or sums not exceeding in total an amount of $[\bullet]$ United States Dollars (USD $[\bullet]$) in each case upon receipt by us of your first demand in writing at the Place of Presentation listed below in person, by registered or certified mail, or by international overnight courier service, substantially in the form attached as <u>Annex A</u> hereto (signed by your authorized representative and appropriately completed) ("*Demand*"), without your needing to prove or to show grounds for your Demand or the sum specified therein. We shall remit all payment(s) under this Letter of Credit into a bank account of your choice and discretion as specified in your Demand. You may make one or more Demands under this Letter of Credit. Partial drawings are permitted.

Any Demand made by Beneficiary in accordance herewith shall be conclusive evidence that the sum stated in such Demand is properly due and payable to Beneficiary under this Letter of Credit. We shall have no right and shall not be under any duty or responsibility to enquire into the reason or circumstances of any Demand made by Beneficiary or the respective rights and/or obligations and/or liabilities of Beneficiary and Applicant in respect to the Proposal. Any discrepancy between the explicit terms hereof and the Rules (defined below) shall be read in favor of the terms set forth in this Letter of Credit.

Place of Presentation: [insert address of Bank branch where Beneficiary presents a Demand].

We shall, within five (5) Business Days after receipt of any Demand served from time to time by Beneficiary, pay to Beneficiary in immediately available funds the lesser of: (a) the amount specified in the Demand; and (b) the then applicable amount remaining on the Letter of Credit. If a Demand made by Beneficiary hereunder does not, in any instance, conform to the terms and conditions of this Letter of Credit, then we shall give Beneficiary, within two (2) Business Days after receipt of such Demand, notice that such Demand was not effected in accordance with the terms and conditions of this Letter of Credit, stating the reason therefore. Upon being notified that a Demand was not made in conformity with this Letter of Credit, Beneficiary may attempt to correct such non-conforming Demand. Our obligations under this Letter of Credit are primary and not by way of surety or guarantee.

[This Letter of Credit shall enter into force and effect upon expiry of Proposal Security No. [•], dated [•] and issued by [•].] [NTD: Insert this language if this is a replacement Letter of Credit.]

This Letter of Credit shall expire on [*date*] but such expiration date shall be automatically extended for a period of one (1) year on [*one year anniversary of prior date*] ("*Expiry Date*"), and on each successive expiration date thereafter, unless at least one hundred twenty (120) calendar days before the then current Expiry Date we notify both Beneficiary and Applicant, by certified mail, that we have decided not to extend this Letter of Credit beyond the then current Expiry Date. Any such notice shall be delivered by registered or certified mail, or by FedEx, both to:

Beneficiary at:

[•]

And to Applicant at:

[•]

In the event Beneficiary and Applicant are so notified by us pursuant to the immediately preceding sentence, Beneficiary may draw any amount or the entire amount available under this Letter of Credit by Beneficiary's presentment, at the Place of Presentation, of a drawing certificate duly signed in substantially the form of Annex A attached hereto appropriately completed. In no event shall the Expiry Date of this Letter of Credit be subject to automatic extension beyond sixty (60) calendar days after the Bid Expiration Date, and any pending automatic one-year extension shall be ineffective beyond such date. The Expiry Date does not affect our liability to make payment of any demand received prior to the Expiry Date.

This Letter of Credit is subject to ICC International Standby Practices 1998 (ISP 98), International Chamber of Commerce Publication No. 590 (the "*Rules*"). For matters not addressed by the Rules, this Letter of Credit is governed by and to be construed in accordance with the laws of the Commonwealth of Puerto Rico. In the event of a conflict between the terms of this Letter of Credit and the Rules, the terms of this Letter of Credit shall prevail.

The courts of the United States federal courts in the Commonwealth of Puerto Rico shall have exclusive jurisdiction in respect of all disputes arising out of this Letter of Credit (including, without limitation, the enforceability of this Letter of Credit). By: Authorized Signatory

ANNEX A - FORM OF DRAWING CERTIFICATE

[Letterhead of Beneficiary]

[*Name of Issuing Bank*] Attention: [*Stand-by Letter of Credit Department*] [*Address of Issuing Bank*]

Date: [•]

RFP-T2 – **Proposal Security No.** [•]

We refer to the above-captioned irrevocable stand-by letter of credit, with reference number [•] (the "*Letter of Credit*"). Unless the context otherwise requires, capitalized terms used herein shall have the meanings ascribed to them in this Letter of Credit or the RFP-T2. We hereby inform you that:

- 1. Applicant withdrew part, or all, of the Proposal prior to the Bid Expiration Date;
- 2. Beneficiary has determined that the Proposal contains a false statement or material misrepresentation;
- 3. Beneficiary has selected the Proposal for Phase III evaluation under the RFP-T2 and Applicant has failed to execute a Contract with Beneficiary for reasons other than Beneficiary's failure to negotiate in good faith in respect of the Proposal within thirty (30) days from the date of such selection;
- 4. Applicant (i) has executed a Contract with Beneficiary, (ii) breached its obligation to satisfy conditions precedent thereunder, and (iii) failed to cure such breach within sixty (60) days of the date of such Contract;
- 5. the RFP-T2 or an executed Contract provide that Beneficiary may draw on this Letter of Credit;
- 6. you no longer meet the requirements of a Qualified Bank (as defined below) and twenty-one (21) calendar days or more have elapsed since the date on which you no longer met such requirements, and Applicant has not delivered to Beneficiary a replacement guarantee that is substantially identical to the Letter of Credit, meeting the requirements of the RFP-T2. "Qualified Bank" means a national bank, national association, commercial bank or other financial institution registered in the United States, having a branch located within Puerto Rico or the contiguous United States, and otherwise acceptable to Beneficiary that has a long-term issuer rating of at least (i) if headquartered within Puerto Rico, then "B+" by Standard & Poor's Ratings Services, "B1" by Moody's Investors Services Inc., or "B+" by Fitch Ratings Inc. or (ii) if headquartered outside of Puerto Rico, then "A-" by Fitch Ratings Inc., or in each case if the relevant rating agencies cease to engage in business or rate the obligations in question, then an equivalent rating from another internationally

recognized rating agency selected by Applicant with the written consent of Beneficiary; provided that, if such financial institution's ratings satisfy such minimum ratings, no other credit rating agency shall have placed such financial institution on credit watch with negative implications; or

7. twenty-one (21) or less calendar days remain before the current Expiry Date, Applicant's obligation to maintain the Letter of Credit under the RFP-T2 extends beyond such Expiry Date, and Applicant has not delivered to Beneficiary a replacement letter of credit substantially identical to the Letter of Credit and meeting the requirements of the RFP-T2.

This letter serves as our demand for payment under the Letter of Credit. We request that you immediately pay the sum of $[\bullet]$ into the bank account below:

Account Name:	[•]
Account Number:	[•]
Bank Name:	[•]
Bank Address:	[•]
Swift Code:	[•]

Yours very truly,

[The Puerto Rico Electric Power Authority]

By: Authorized Signatory This Appendix I includes the MTRs for solar-based Renewable Energy Resources (Section I) and Energy Storage Resources (Section II).

I. SOLAR PPOA

Capitalized terms used throughout this Appendix I have the meaning set forth in the PPOA, unless otherwise defined herein.

Resource Provider shall comply with the following MTRs:

150 140 130 120

Voltage Ride-Through:

1.



Figure 1 Voltage Ride-Through Requirements

- a. PREPA's Low Voltage Ride-Through (LVRT) Requirements:
 - i. From Figure 1, all generation shall remain online and able to ride-through three phase and single-phase faults down to 0.0 per-unit (measured at the point of interconnection), for up to 600 ms.
 - ii. All generation shall remain online and operating during and after normally cleared faults on the point of interconnection.

- iii. All generation shall remain online and operating during backup-cleared faults on the point of interconnection.
- iv. During low voltage fault conditions, the Facility shall operate on reactive current injection mode. This mode of operation shall be implemented with a reactive current droop characteristic, which shall have an adjustable slope from 1 to 5%. A dead band of 15% is required.
- b. PREPA's Overvoltage Ride-Through (OVRT) Requirements:
 - i. All generation shall remain online and able to ride-through symmetrical and asymmetrical overvoltage conditions specified in the following values (illustrated in Figure 1 above):

Overvoltage (pu)	Minimum time to remain online
1.4 - 1.3	150 ms
1.3 – 1.25	1 s
1.25 – 1.15	3 s
1.15 or lower	indefinitely

2. Voltage Regulation System (VRS):

PREPA requires constant voltage control. Photovoltaic System technologies in combination with Static Var Controls, such as Static Var Compensators (SVCs) and STATCOMs are acceptable options to comply with this requirement. Resource Provider shall submit a complete and detailed description of the VRS control strategy for PREPA's evaluation.

- a. The Facility must have a continuously-variable, continuously-acting, closed loop control VRS; i.e. an equivalent to the Automatic Voltage Regulator in conventional machines.
- b. The VRS set-point shall be adjustable between 95% to 105% of rated voltage at the Interconnection Point (connection to PREPA TC). PREPA's Energy Control Center (via SCADA) must have the ability to adjust the VRS set point.
- c. The voltage regulation at the Interconnection Point (connection to PREPA TC) shall be based in direct measurement of the Interconnection Point (connection to PREPA TC) voltage. Line drop compensation or similar strategies shall not be permitted.

- d. The VRS shall only operate in a voltage set point control mode. Controllers such as Power Factor or constant VAR are not permitted.
- e. The VRS controller regulation strategy shall be based on proportional plus integral (PI) control actions with parallel reactive droop compensation. The VRS Droop shall be adjustable from 0 to 10%.
- f. At zero percent (0%) droop, the VRS shall achieve a steady-state voltage regulation accuracy of +/-0.5% of the controlled voltage at the Interconnection Point (connection to PREPA TC).
- g. The VRS shall be calibrated such that a change in reactive power will achieve 95% of its final value no later than one (1) second following a step change in voltage. The change in reactive power should not cause excessive voltage excursions or overshoot. If a voltage overshoot is generated during a change in reactive power its value shall be less than 1%.
- h. The VRS must be in service at any time the Facility is electrically connected to the grid regardless of the Facility MW output.
- i. The VRS dead band shall not exceed 0.1%.

3. Reactive Power Capability and Minimum Power Factor Requirements:

- a. The total power factor range shall be from 0.85 lagging to 0.85 leading at the Interconnection Point (connection to PREPA TC\). The reactive power requirements are necessary to provide support to the system operation based on the voltage profile and reactive power needs. The Facility shall ramp the reactive power from 0.85 lagging to 0.85 leading in a smooth continuous fashion at the Interconnection Point (connection to PREPA TC).
- b. The +/- 0.85 power factor range should be dynamic and continuous at the Interconnection Point (connection to PREPA TC). The Facility shall respond to power system voltage fluctuations by continuously varying the reactive output within the specified limits. The power factor dynamic range herein specified could be expanded if studies indicate that additional continuous, dynamic compensation is required. The Facility must have a reactive capability that meets +/- 0.85 Power Factor (PF) range based on the Facility Aggregated MW Output, which is the maximum MVAr capability corresponding to maximum MW Output. Positive (+) PF means the Facility is producing MVAr, and negative (-) PF means the Facility is absorbing MVAr.
- c. The MVAr capability at maximum output shall be sustained throughout the complete range of operation of the Facility as established in Figure 2. The MVAr capability shall also be sustained throughout the complete Interconnection Point (connection to PREPA TC) voltage regulation range (95% to 105% of rated voltage at the Interconnection Facilities).



Figure 2 Reactive Power Capability Curve

4. Short Circuit Ratio (SCR) Requirements:

PREPA does not permit Short Circuit Ratio values (System Short Circuit MVA at POI/PV Facility MVA Capacity) under 5. Resource Provider shall be responsible for the installation of additional equipment, such as synchronous condensers and controls, necessary to comply with PREPA's minimum short circuit requirements.

5. Frequency Ride Through (FRT):

57.5 - 61.5 Hz	No tripping (continuous)
61.5 - 62.5 Hz	30 sec
56.5 - 57.5 Hz	10 sec
< 56.5 or > 62.5 Hz	Instantaneous trip

6. Frequency Response/Regulation:

a. The Facility shall provide an immediate real power primary frequency response, proportional to frequency deviations from scheduled frequency, similar to governor response. The rate of real power response to frequency deviations shall be similar to or more responsive than the conventional generators' droop characteristic of 3-5% range. The Facility shall have controls that provide both for down-regulation and up-regulation. PV technologies, in combination with Energy Storage Resources such as, but not limited to, battery energy storage systems (BESS), and flywheels

are acceptable options to comply with PREPA's frequency response and regulation requirements.

- b. The Facility response shall be proportional to the frequency deviation, based on the specified 3-5% range droop characteristic. The droop shall be configurable from 3% to 5% in steps of 0.5% (e.g. 3.0%, 3.5%, 4.0%, 4.5%, 5%). The frequency response dead band shall not exceed 0.02%. For large frequency deviations (i.e. in excess of 0.3 Hz), the Facility shall provide an immediate real power primary frequency response of at least 10% of the maximum AC active power capacity (established in the PPOA). The time response (full 10% frequency response) shall be less than one (1) second. Frequency response shall not be limited by, and shall be decoupled from, the ramp rate control. The frequency response of the Facility shall be continuously in operation, even during ramp rate events. After the two (2) decoupled functions are added together, the Facility shall be able to simultaneously comply with both requirements.
- c. If energy storage systems are utilized to comply with the frequency regulation requirements, and during a disturbance the system frequency stays below 59.7 Hz, the Facility frequency response shall be maintained for at least nine (9) minutes. After the ninth (9th) minute the real power primary frequency response shall not decrease at a ramp rate higher than 10% of the maximum AC active power capacity per minute. The energy storage systems utilized to comply with the frequency regulation requirement shall be designed based on a storage capacity equivalent to at least nine and a half (9.5) minutes of the 10% AC contracted capacity measured at the Interconnection Point (connection to PREPA TC) for downward and for upward frequency events. This represents an equivalent of nine (9) minutes full participation, plus one (1)-minute ramp down complying with the ramp rate requirement. This energy will be used on a continuous basis for regulation against frequency deviations. During periods of time were the energy storage system utilized to comply with the frequency regulation requirement is completely charged (i.e. cannot absorb more power), the PV inverters will assume the responsibility of the upward frequency events. If the energy available for frequency regulation is drained, the function shall be restored in a time period less than ten (10) minutes and with at least 95% of the energy capacity restored. The energy charging process shall not affect the ramp rate control requirement or the frequency regulation of the grid.
- d. The operational range of the frequency response and regulation system shall be 10% to 110% of the maximum AC active power capacity (established in the PPOA). The Facility power output at the Interconnection Point (connection to PREPA TC) shall not exceed the maximum AC active power (established in the PPOA) except to comply with the frequency response requirement.

7. Ramp Rate Control:

a. Ramp Rate Control is required to smoothly transition from one output level to another. The Facility shall control the rate of change of power output during certain

circumstances, including but not limited to: (i) rate of increase of power; (ii) rate of decrease of power; (iii) rate of increase of power when a curtailment of power output is released; and (iv) rate of decrease in power when curtailment limit is engaged. PREPA requires a limitation of 10% per minute (0.1667% per second) rate based on AC contracted capacity. This ramp rate limit applies both to the increase and decrease of power output and is independent of meteorological conditions. The ramp rate control tolerance shall be +10%.

- b. The energy storage system utilized to comply with the ramp rate control requirement shall be designed based on a minimum storage capacity equivalent to twenty-five (25) minutes of the thirty percent (30%) AC contracted capacity measured at the Interconnection Point (connection to PREPA TC). The minimum nominal power output capacity of the energy storage system utilized to comply with the ramp rate control requirement shall be thirty percent (30%) of AC contracted capacity measured at the Interconnection Point (connection to PREPA TC); and for at least one (1) minute, a minimum effective power output capacity of 45% of AC contracted capacity measured at the Interconnection Point (connection to PREPA TC); and for at least one (1) minute, a minimum effective power output capacity of 45% of AC contracted capacity measured at the Interconnection Point (connection to PREPA TC). The transition from effective power output capacity to nominal power output capacity shall not exceed the ramp rate requirement of 10% per minute.
- c. The Frequency Response/Regulation and Ramp Rate Control functions shall be decoupled, continuously in operation. The Facility shall be able to comply simultaneously with both requirements while generating and injecting power to the grid. For this reason, the energy storage system shall include, as a minimum: 10% of the contracted capacity for Frequency Response/Regulation for at least nine and a half (9.5) minutes (see Section 6 herein for details) and 30% of contracted capacity for Ramp Rate Control for at least twenty five (25) minutes. The energy storage system shall also be able to provide a minimum effective capacity of 45% of the contracted capacity for at least one (1) minute at the Interconnection Point (connection to PREPA TC). Therefore, the minimum acceptable capacity for the energy storage system is a total combined size of 40% of the contracted capacity, and for at least one (1) minute, the system has to have an effective capacity of 45% of the contracted capacity.
- d. If the energy storage system cannot control the ramp rate as required herein because it does not perform according to the minimum required capabilities herein specified, the Facility will be considered in non-compliance. However, (i) rates of change in active power at the Interconnection Point (connection to PREPA TC) in excess of the 10% per minute rate requirement caused by the loss of generating resource (solar irradiance) that require more than the minimum storage capacity herein defined will not be considered non-compliant with the ramp rate control requirement, and (ii) if the ramp rate is controlled within the limits specified in the ramp rate control requirement, or if the storage system cannot control the ramp rate because it is outside of its minimum required capabilities, but performs as specified, the Facility will not be considered in non-compliance.

8. Auto-Curtailment:

Resource Provider shall implement an auto-curtailment strategy for the Facility to address and compensate deficiencies that can affect the Facility compliance with the MTRs. The conditions to apply auto-curtailment include but are not limited to the following:

- a. A reduction on the reactive power capacity of the Facility (e.g. due to inverters out of service, or any other condition that can reduce the required reactive power capacity of the Facility).
- b. A reduction in the active power capacity of the energy storage system (e.g. loss of some of the battery strings, a BESS inverter out of service, or any other condition that can reduce the required active power capacity of the energy storage system).
- c. Loss of the Interconnection Facilities (connection to PREPA TC) readings used for the different controls (voltage, frequency, ramp, etc.) of the Facility. This can happen due to a malfunction of the equipment used for the Interconnection Facilities (connection to PREPA TC) readings. In this case the Facility should be curtailed to zero (0) output.
- d. A fault in the Voltage Control, Frequency Response Control, Ramp Rate Control. In this case the Facility should be curtailed to zero (0) output.
- e. Any other condition based in the Facility design that can cause a non-compliance with the MTRs.

Resource Provider must submit to PREPA a complete and detailed description of the autocurtailment strategy for PREPA's evaluation.

9. Power Quality Requirements:

Resource Provider shall address in the design of the Facility potential sources and mitigation of power quality degradation prior to interconnection. Design considerations should include Applicable Standards including, but not limited to IEEE Standards 142, 519, 1100, 1159, and ANSI C84.1. Typical forms of power quality degradation include, but are not limited to voltage regulation, voltage unbalance, harmonic distortion, flicker, voltage sags/interruptions and transients

10. Power Management:

The Facility shall provide adequate technology (communicating technology and the corresponding control equipment) and implement PREPA's power management requirements (ramp rate limits, output limits, curtailment).

11. Special Protection Schemes:

The Facility shall provide adequate technology and implement PREPA's special protection schemes, in coordination with power management requirements.

12. General Interconnection Substation Configuration:

An interconnecting generation producer must interconnect at an existing PREPA switchyard, unless PREPA agrees otherwise in the PPOA. The configuration requirements of the interconnection depend on where the physical interconnection is to occur and the performance of the system with the proposed interconnection. The interconnection must conform, at a minimum, to the original designed configuration of the switchyard. PREPA, at its sole discretion, may consider different configurations due to physical limitations at the site.

13. Modeling and Validation

- a. Once final adjustments and parameter settings related with commissioning and MTR compliance tests are completed, Resource Provider shall submit a PSS/e Siemens PTI Certified mathematical model and validation report.
- b. The mathematical model shall include but is not limited to PV inverters, transformers, collector systems, plant controllers, control systems and any other equipment necessary to properly model the Facility for both steady-state and dynamic simulation modules.
- c. Resource Provider must submit user manuals for both the PV inverter and the Facility models including a complete and detailed description of the voltage regulation system (VRS) and frequency regulation system model implementation. The mathematical models shall be fully compatible with the latest and future versions of PSS/E. Resource Provider shall use PSS/E standard models. In case that Resource Provider submits user written models, Resource Provider shall be required to keep such models current with the future versions of the PSS/E program until such time that PSS/E has implemented a standard model. Resource Provider shall submit to PREPA an official report from Siemens PTI that validates and certifies the required mathematical models, including subsequent revisions. The Resource Provider shall be responsible of submitting the official reports and certifications from Siemens PTI, otherwise the mathematical model shall not be considered valid.
- d. Resource Provider shall submit Siemens PTI certified PSS/E mathematical models of any kind of compensation devices (e.g. SVC, STATCOMs, BESS, etc.) used on the Facility. Resource Provider shall use standard models provided with PSS/E. In the case that Resource Provider submits user written models, Resource Provider shall keep these models current with the future versions of the PSS/E program until such time that PSS/E has implemented a standard model. In its final form, the mathematical model shall be able to simulate each of the required control and operational modes available for the compensation device and shall be compatible with the latest and future versions of PSS/E. The model shall reflect final adjustments and parameters settings related with the control system commissioning process and shall be incorporated to the PSS/E mathematical model and tested accordingly by the PV facility Resource Provider and PREPA system

study groups. Resource Provider shall be responsible of submitting the official reports and certifications from Siemens – PTI, otherwise the mathematical models shall not be considered valid.

- e. If Resource Provider provides user written model(s), it shall provide compiled code of the model and maintain the user written model compatible with current and new releases of PSS/E until such time a standard model is provided. Resource Provider must permit PREPA to make available the Facility models to external consultants with a non-disclosure agreement in place.
- f. Resource Provider shall submit a PSS/E model validation report. This report shall demonstrate PSS/E simulation results that show the model MTR compliance and performance, based on final adjustment and parameter settings of MTR and commissioning field tests. Resource Provider shall be responsible of submitting the official reports and certifications from Siemens PTI, otherwise the mathematical models shall not be considered valid.
- g. Additional details for the adequate PSS/E modelling and the contents of the PSS/E validation report can be found in PREPA's "Guidelines on PSS/E Mathematical Models" document.

14. Transient Mathematical Model:

Resource Provider shall be responsible of providing a detailed transient model of the PFV and to demonstrate that it is capable of complying with PREPA's transient MTRs.

15. Dynamic System Monitoring Equipment:

Resource Provider shall be required to provide, install and commission a dynamic system monitoring equipment that conforms to PREPA's specifications.

II. ESSA

Capitalized terms used throughout this Appendix I have the meaning set forth in the ESSA, unless otherwise defined herein.

Resource Provider shall comply with the following MTRs.

1. Frequency Control and Regulation:

- a. Fast active power (P) source capable of continuously injecting or absorbing energy from the grid as a function of system frequency deviations to help manage and maintain frequency at 60 Hz.
- b. Instantaneous and immediate active power (P) response of battery energy storage system ("**BESS**") proportional to frequency deviations from scheduled frequency.
- c. The rate of active power (P) response of BESS to frequency deviations shall be established based on configurable PREPA selected droop characteristic (*i.e.* 5% droop characteristic or more responsive as PREPA requires SCADA). PREPA shall be able to program and configure the droop via SCADA from 1% to 5% in steps of 0.5% (*i.e.* 3.0%, 3.5%, 4.0%, 4.5%, 5%).
- d. Frequency regulation deadband shall be available. PREPA shall be able to configure and program the deadband via SCADA. The configurable deadband range shall be at least from 0.02% to 0.5%.
- e. BESS frequency control and regulation mode time response (full frequency response) shall be less than 1.0 second.
- f. PREPA shall be able to configure and select frequency regulation range (upper injection/lower absorption limits) via SCADA up to a maximum of its nominal capacity (*i.e.* +/- 15 MW, +/- 20 MW). Asymmetrical frequency regulation ranges should be allowed (*i.e.* +15 MW/-5 MW, +10 MW/-20 MW).
- g. Capability to operate in the frequency control and regulation mode and simultaneously control the voltage by the injection or absorption of up to the required nominal reactive power at the Interconnection Point: (i) the frequency regulation control shall operate decoupled from the voltage regulation control mode and shall not limit the required reactive power capability of the Facility at the Interconnection Point, and (ii) the voltage regulation control shall not limit the required active power capability of the Facility at the Interconnection.

2. Rapid Spinning Reserve and Fast Frequency Response

a. Instantaneous injection of reserve energy as a function of the rate of change and/or deviations of the system frequency in the event of a sudden loss of generation or unexpected ramp-up in demand.

- b. Energy capability and power capacity to inject nominal active power output (at the Interconnection Point) in a range from two (2) to six (6) hours of discharge.
- c. Injection of active power (P) within the first three (3) cycles of a specific frequency deviation trigger and/or a frequency rate of change trigger (PREPA shall be able to configure and select triggers).
 - i. Total configurability for PREPA selection of the active power output, response time and response slope.
 - ii. Total configurability for PREPA selection of triggers: frequency, rate of change of frequency and instantaneous/time delay combinations.
 - iii. For example, the rapid reserve might be selected to trigger if frequency decays to 59.6 Hz at a rate > 0.25 Hz/sec or drops and stays between 59.0 Hz and 59.2 Hz for > thirty (30) seconds or drops below 59 Hz.
 - iv. Total configurability for multiple sets of triggering combinations capable of being simultaneously active. The rapid reserve mode might be selected to trigger with Boolean or logical operators that combine active power output, response time, response slope, frequency limits, frequency rate of change and time delay.
- d. The rapid spinning reserve mode shall provide a full output response time (95% of its final output value) of 100 milliseconds or faster. PREPA shall also have the flexibility of selecting a limited rapid spinning reserve sub-mode from SCADA. In limited rapid spinning reserve sub-mode, the active power output, response time and response slope shall be configurable and programmable from SCADA in accordance with the triggering combinations and options previously discussed.
- e. Capability to ramp down active power output at PREPA's pre-selected and configurable slope (MW/min or% of active power output/min) after system frequency is normalized and triggers pre-selected and configurable frequency window for a certain amount of time. BESS shall ramp down to PREPA's pre-selected and configurable active power output (10 MW, 5 MW, 0 MW, *etc.*) and be able to automatically make the transition and continue operating in frequency control and regulation mode in accordance with previously selected and configurable parameters. The active power automatic ramp down should have the capability of being manually interrupted and ramped down from SCADA.
 - i. Total configurability of ramp down slope in MW/minute or% of active power output/minute.
 - ii. Total configurability of active power output target to which BESS shall ramp down before making the transition to operate in frequency control and regulation mode.

- iii. Total configurability for PREPA selection of frequency triggers that initiate rapid reserve ramp down process: frequency limits of window range and time delay combinations that initiate ramp down.
- iv. For example, rapid reserve ramp down might be triggered if frequency returns to 60 Hz +/- 0.1 Hz and stays in this range for at least twenty (20) seconds or returns to 60 Hz +/- 0.2 Hz and stays in this range for at least thirty (30) seconds.
- f. Capability to ramp down active power output at PREPA's pre-selected and configurable slope (MW/min or% of active power output/min) after SCADA command is received from PREPA's Energy Control Center System Operator to automatically make the transition and continue operating in frequency control and regulation mode in accordance with previously selected and configurable parameters.
 - i. Total configurability of ramp down slope in MW/minute or % of active power output/minute.
 - ii. Total configurability of active power output target to which BESS shall ramp down before making the transition to operate in frequency control and regulation mode.
- g. Capability to inject nominal active power output for 1.0 hour and simultaneously inject or absorb nominal reactive power at the Interconnection Point.

3. Dispatchable Generation Source:

- a. Injection of active power at the Interconnection Point for a limited period of time to cover temporary generation deficits or start-up fast generating units.
- b. PREPA shall be able to select from SCADA the constant power output mode, active power (P) magnitude and time period.
- c. Capability to automatically make the transition from dispatchable mode to frequency control and regulation mode in accordance with previously selected and configurable parameters after SCADA command is received from PREPA's Energy Control Center System Operator.
- d. Capability to ramp down active power output at PREPA's pre-selected and configurable slope (MW/min or % of active power output/min) after SCADA command is received from PREPA's Energy Control Center System Operator to automatically make the transition from dispatchable mode to frequency control and regulation mode in accordance with previously selected and configurable parameters.
 - i. Total configurability of ramp down slope in MW/minute or % of active power output/minute

- ii. Total configurability of active power output target to which BESS shall ramp down before making the transition to operate in frequency control and regulation mode
- e. Capability to operate in the dispatchable generation source mode and simultaneously control the voltage by the injection or absorption of up to nominal reactive power at the Interconnection Point.

4. Voltage Regulation and Control:

- a. Dynamic reactive power compensation source capable of continuously injecting or absorbing reactive power (up to +/- nominal MVAR at Interconnection Point) as a function of system voltage deviations.
- b. Voltage regulation strategy based 100% on power electronics technology (no passive components like capacitors or reactors, neither thyristor controlled or switched capacitors or reactors allowed to complement reactive power capability).
- c. Constant voltage control is required (voltage set point control mode).
- d. PREPA shall be able to adjust from SCADA the voltage regulation set points shall between 95% and 105% rated voltage at the Interconnection Point. Because the previous voltage regulation range could be expanded (for example up to 106%) if PREPA's internal analyses indicate that additional dynamic compensation is required for specific multi-contingency scenarios, the upper voltage set point limits should be totally configurable and adjusted from SCADA beyond the typical voltage regulation range.
- e. The voltage regulation shall be based on direct measurement by means of new BESS dedicated potential transformers (that Resource Provider shall install) at the Interconnection Point.
- f. The voltage regulation system strategy shall be based on proportional plus integral (PI) control actions with parallel reactive droop compensation. The voltage regulation droop shall be adjustable from 0 to 10% in steps not greater than 0.5%.
- g. At zero percent (0%) droop, the voltage regulation system shall achieve a steadystate voltage accuracy of +/- 0.3% of the controlled voltage at the Interconnection Point. For voltage regulation droops between 0 and 2.5%, the voltage regulation system shall be calibrated such that a change in reactive power will achieve 95% of its final value no later than one (1) second following a step change in voltage. The change in reactive power should not cause excessive voltage excursions or overshoot. If a voltage overshoot is generated, it should be less than 1%.
- h. For voltage regulation droops between 2.5% and 5.0%, the voltage regulation system shall be calibrated such that a change in reactive power will achieve 95% of its final value no later than 500 msec following a step change in voltage. The change

in reactive power should not cause excessive voltage excursions or overshoot. If a voltage overshoot is generated, it should be less than 1%.

- i. For voltage regulation droops between 5% and 10%, the voltage regulation system shall be calibrated such that a change in reactive power will achieve 95% of its final value no later than 100 msec following a step change in voltage. The change in reactive power should not cause excessive voltage excursions or overshoot. If a voltage overshoot is generated, it should be less than 1%.
- j. The voltage regulation system dead band shall not exceed 0.1%.
- k. The voltage regulation system shall be programmed to control and coordinate with local power transformers tap changers and local reactive power sources physically located in the switchyard.

5. Fast Dynamic Reactive Power Reserve and Voltage Support:

- a. Instantaneous or slope controlled (MVAR/sec) injection or absorption of reactive power triggered by and as a function of the rate of change and/or deviations of the system voltage.
- b. Injection of reactive power (Q) within the first three (3) cycles of a specific voltage deviation trigger and/or a voltage rate of change trigger. PREPA shall be able to configure and select triggers.
 - i. PREPA shall be able to configure and select from SCADA the maximum final reactive power output value for fast dynamic reactive power reserve up to the nominal reactive power capacity.
 - ii. Total configurability for PREPA selection of triggers: voltage magnitude, rate of change of voltage and instantaneous/time delay combinations.
 - iii. For example, fast dynamic reactive power reserve might be selected to trigger if voltage decays to 0.95pu kV at a rate > 2.0 kV/sec or drops below 0.9pu.
 - iv. For example, a different value of fast dynamic reactive power reserve might be selected to trigger if voltage decays to 0.95pu at a rate > 1.0 kV/sec or drops below 0.93pu.
- c. A full output response time (95% of its final output value) of 100 msecs. or faster is required. The maximum overshoot should not exceed 5% of the ordered change and the settling time should not exceed 150 msec.
 - i. Capability to inject 120% of nominal reactive power output for three (3) seconds at required 100 msec. response time.

- ii. Absorption of reactive power (Q) within the first three (3) cycles of a specific voltage deviation trigger and/or a voltage rate of change. PREPA shall be able to configure and select triggers.
- iii. PREPA shall be able to configure and select from SCADA the minimum final reactive power output value for fast dynamic reactive power absorption, up to the nominal reactive power capacity of BESS.
- iv. Total configurability for PREPA selection of triggers: voltage magnitude, rate of change of voltage and instantaneous/time delay combinations.
- v. For example, fast dynamic reactive power might be selected to trigger if voltage increases to 1.1pu of the nominal voltage at a rate > 3.0 kV/sec or increases above 1.2pu of the nominal voltage.
- d. A different fast dynamic reactive power might be selected to trigger if voltage increases to 1.1pu of nominal voltage at a rate > 2.0 kV/sec or increases above 1.15pu of nominal voltage.
- e. Capability to inject nominal fast dynamic reactive power reserve or operate in voltage regulation mode depending on the system voltage conditions, and simultaneously inject nominal active power output for 1.0 hour at the Interconnection Point.

6. Black Start Capability:

- a. The Facility shall provide for BESS start-up capability and full functionality during system blackouts.
- b. The Facility shall provide for BESS start-up capability and full functionality during unavailability of external system generation sources.

7. BESS Full Functional Voltage and Frequency Operational Range and Ride-Through Capability:

a. Low Voltage Operation Range:



Figure 1 BESS Voltage Operational Range and Ride-Through Requirements

- i. From Figure 1 (above), PREPA requires BESS to remain totally functional and online during three (3) phase and single phase faults down to 0.0 perunit (measured at the Interconnection Point), for up to 600 msec.
- ii. BESS shall remain online and continue operating during and after normally cleared faults on the Interconnection Point.
- iii. BESS shall remain online and continue operating during and after backupcleared faults.
- b. High Voltage Operational Range:
 - i. PREPA requires BESS to remain totally functional and online during symmetrical and asymmetrical overvoltage conditions as specified by the following values (illustrated in Figure 1 above):

Overvoltage (pu)	Minimum time
1.4 - 1.3	150 ms

1.3 - 1.25	1 s
1.25 - 1.15	3 s
1.15 or lower	indefinitely

c. Frequency Ride Through (FRT)

56.0 – 63.0 Hz	No tripping (continuous)
55.5 – 56.0 Hz	20 sec time delay
< 55.5 or > 63.0 Hz	Instantaneous trip

8. Dynamic System Monitoring Equipment (DSM)

Resource Provider is required to provide, install, commission and maintain a dynamic system monitoring equipment that conforms to PREPA's specifications and signals list.

9. Modeling and Validation

- a. Once final adjustments and parameter settings related with commissioning and MTR compliance tests are completed, Resource Provider shall submit a PSS/E Siemens PTI Certified mathematical model and validation report. When referred to the mathematical model, this shall include but is not limited to inverters, transformers, collector systems, plant controllers, control systems and any other equipment necessary to properly model BESS facility for both steady-state and dynamic simulation modules.
- b. Resource Provider shall submit user manuals for both BESS unit and BESS Facility models including a complete and detailed description of the voltage regulation system (VRS) and frequency regulation system model implementation. The mathematical models shall be fully compatible with the latest and future versions of PSS/E. Resource Provider shall use PSS/E standard models. In the case that Resource Provider submits user written models, Resource Provider shall keep these models current with the future versions of the PSS/E program until such time that PSS/E has implemented a standard model. Resource Provider shall submit to PREPA an official report from Siemens PTI that validates and certifies the required mathematical models, including subsequent revisions. Resource Provider shall submit the official reports and certifications from Siemens PTI, otherwise the mathematical model shall not be considered valid.
- c. Resource Provider shall submit Siemens PTI certified PSS/E mathematical models of any kind of compensation devices (*i.e.* SVC, STATCOMs, BESS, *etc.*) used on BESS facility. Resource Provider shall use standard models provided with PSS/E. In the case that Resource Provider submits user written models, Resource Provider shall keep these models current with the future versions of the PSS/E

program until such time that PSS/E has implemented a standard model. In its final form, the mathematical model shall be able to simulate each of the required control and operational modes available for the compensation device and shall be compatible with the latest and future versions of PSS/E. The model shall reflect final adjustments and parameters settings related with the control system commissioning process and shall be incorporated to the PSS/E mathematical model and tested accordingly by Resource Provider and PREPA system study groups. Resource Provider shall submit the official reports and certifications from Siemens – PTI, otherwise the mathematical models shall not be considered valid.

- d. If Resource Provider provides user written model(s), then it shall provide compiled code of the model and maintain the user written model compatible with current and new releases of PSS/E until such time a standard model is provided. Resource Provider shall permit PREPA to make available Facility models to external consultants with a non-disclosure agreement in place.
- e. Resource Provider shall submit a PSS/E model validation report. This report shall demonstrate PSS/E simulation results that show the model MTR compliance and performance, based on final adjustment and parameter settings of MTR and commissioning field tests. Resource Provider shall submit the official reports and certifications from Siemens PTI, otherwise the mathematical models shall not be considered valid.
- f. Additional details for the adequate PSS/E modeling and the contents of the PSS/E validation report can be found in PREPA's "Guidelines on PSS/E Mathematical Models" document.

10. Power Management

The Facility shall provide adequate technology (communicating technology and the corresponding control equipment) and implement PREPA's power management requirements (ramp rate limits, output limits, curtailment).

11. Short Circuit Ratio (SCR) Requirements

Short Circuit Ratio values (System Short Circuit MVA at POI/BESS Facility MVA Capacity) under 5 shall not be permitted. Resource Provider shall install additional equipment, such as synchronous condensers, and controls as necessary to comply with PREPA's minimum short circuit requirements.

12. General

- a. For batteries, replacement of individual cells or cell modules shall not interrupt BESS availability to the grid.
- b. BESS shall have dedicated auxiliary electric power systems to serve BESS ancillary loads (HVAC, lighting, *etc.*) and be able to be auto-transferred to a reliable backup source.

- c. BESS shall have a minimum round trip energy efficiency of 90%.
- d. PREPA shall define the BESS voltage level at the Interconnection Point. The Project shall include appropriate step-up transformers and required interconnection equipment, including any necessary augmentation or modification to existing substation or transmission facilities.
- e. BESS control system shall integrate the following operational requirements:
 - i. BESS controllers shall be compatible with the systems used in PREPA's System Operations Control Center and Energy Management System.
 - ii. BESS shall be completely dispatchable.
 - iii. BESS control system shall provide available energy forecasting.
 - iv. Any operating function shall be capable of being remotely and dynamically selected and prioritized.
 - v. Function parameters (*i.e.* droop setting) of any operating function shall be capable of being remotely modified.
 - vi. Resource Provider shall fully describe and demonstrate how the proposed BESS control system(s) will operate.

The control system shall have the necessary hardware and software (*i.e.* firewalls & malware detection) such that it is compliant with the latest NERC CIP reliability standards for control system security requirements.

This Appendix J includes the Interconnection Data Request Forms for solar-based Renewable Energy Resources (Section I), wind-based Renewable Energy Resources (Section II) and Energy Storage Resources (Section III).

I. PV GENERATION INFORMATION REQUEST FORM

Please fill out all fields. If field is not applicable, fill with "N/A."

PART A: Interconnection Feasibility Study Data

With the information provided in this section, *Steady-State Thermal Study* and *Steady-State Voltage Analysis* will be performed to evaluate the impact of the PV project interconnection.

1. Overall Generating Facility

Item	Value	Unit
Point of interconnection (POI) ¹ :		
Transmission Center (TC) ² (Name)		
POI voltage level		kV
Maximum Facility net output at the POI		MW*
Generating Facility Location		latitude/longitude

*Power factor range to be evaluated: 0.85 lagging to 0.85 leading at the point of interconnection (POI) per MTR requirements

* Steady State Model – Include a steady state model in PSS/E version 33 (.raw or .sav) of the facility. The model should include the equivalent representation of the PV and/or BESS, pad-mount transformers, collector cables, station transformer, and generator tie-line, if applicable.

¹ PREPA may support the selection of the POI with an optional scoping meeting that may be requested by the developer at no cost.

² PREPA facility that has high voltage transmission lines connecting to it and is similar to a substation.

2. Interconnection Facilities – Tie Line Data

Item	Value	Unit
Nominal voltage		kV
Line length to POI		miles
Conductor type/size		kcmil
Phase configuration (Vertical/Horizontal)		
Rating		Amps

PART B: Full Interconnection System Impact Study Data

With the information provided in this section, *Short Circuit Study & Breaker Duty Review*, and *Dynamic & Transient Stability Analysis* will be performed to evaluate the full impact of the PV project interconnection to the grid.

3. Main Power Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Type (2W, 3W)		
Winding Nominal Voltages (Primary/secondary/tertiary)		kV
Winding Connection types: Delta or Wye (Primary/secondary/tertiary)		
Fixed Taps available		Number of Taps /% V
Impedance on MVA base		Z1%

Item	Value	Unit
		X/R Z1
		Z0%
		X/R Z0

4. Inverter Data and Inverter Step-Up Transformer Data³

Go to section 1 if the Solar PV and BESS are DC connected. Go to section 4.1.2. if the Solar PV and BESS are AC connected.

- 4.1. If Solar PV and Battery Energy Storage System (BESS) are DC connected, fill out the following tables:
 - 4.1.1. Solar PV and Battery Energy Storage System (BESS) Inverter step-up Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV
Winding Connection types: Delta or Wye (Primary/secondary)		
Fixed Taps available		Number of Taps /%V
Impedance on MVA base		Z1%
		X/R Z1
		Z0%
		X/R Z0

³ PREPA Minimum Technical Requirements are applicable to the Generating Facility for connection of the facility to the power grid. These requirements indicate that an energy storage system is necessary for the integration of the Generating Facility to the power grid.

4.1.2. Solar PV and Battery Energy Storage System (BESS) Inverter Data

Item	Value	Unit
Number of Inverters to Be Interconnected		
Inverter Manufacturer		
Inverter Model		
Inverters MVA rating		MVA
Number of Inverters		
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms

4.2. If Solar PV and Battery Energy Storage System (BESS) are AC connected, fill out the following tables below

4.2.1. Solar PV Inverter step-up Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV
Winding Connection types: Delta or Wye (Primary/secondary)		

Item	Value	Unit
Fixed Taps available		Number of Taps /%V
Impedance on MVA base		Z1%
		Z0%
		X/R

4.2.2. Solar PV Inverter Data

Item	Value	Unit
Number of Inverters to be Interconnected		
Inverter Manufacturer		
Inverter Model		
Inverters MVA rating		MVA
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms

4.2.3. Battery Energy Storage System (BESS) Inverter step-up Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV

Item	Value	Unit
Winding Connection types: Delta or Wye (Primary/secondary)		
Fixed Taps available		Number of Taps /%V
Impedance on MVA base		Z1%
		Z0%
		X/R

4.2.4. BESS Inverter Data

Item	Value	Unit
Number of Inverters to Be Interconnected		
Inverter Manufacturer		
Inverter Model		
Inverters MVA rating		MVA
Number of inverters		
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms
5. Interconnection Facilities – Tie Line Data (complement to the line data in Part A)

Item	Value	Unit
Positive sequence resistance (R) for entire length		p.u.*
Positive sequence reactance (X) for entire length		p.u.*
Zero sequence resistance (R0) for entire length		p.u.*
Zero sequence reactance (X0) for entire length		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

6. Equivalent Collector System Impedance Data

Item	Value	Unit
Nominal voltage		kV
Rating		Amps
Positive sequence resistance (R)		p.u.*
Positive sequence reactance (X)		p.u.*
Zero sequence resistance (R0)		p.u.*
Zero sequence reactance (X0)		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

7. Additional Reactive Compensation Devices (if applicable)

Item	Value	Unit
Type of Device		-

Total Reactive Capability	-
Q max	MVAr
Q min	MVAr

8. Dynamic Models

The solar PV and BESS aggregate dynamic mathematical models are required in PSS/E v33 format (.dyr file). If the solar PV and BESS are connected on the DC side, only a single inverter aggregate model is needed. If the solar PV and BESS are connected on the AC side, each inverter type requires a separate aggregate model.

PSS/E generic PV Solar Dynamic Models
REGCAU1
REECAU1
REPCAU1
VTGTPAT
FRQTPAT

PSS/E generic BESS Dynamic Models	
REGCAU1	
REECCU1	
REPCTAU1	
VTGTPAT	
FRQTPAT	

PSS/E library Static Var Systems and FACTS

SVSMO3U2*

SVSMO2U2*

PSS/E library Static Var Systems and FACTS
SVSMO3U2*
CSVGN1
CSVGN3
CSVGN4
CSVGN5
SWSHNT
CDSMS1
CSTATT
CSTCNT
ABBSVC1
CHSVCT
CSSCST

*WECC, "Generic Static Var System Models for the Western Electricity Coordinating Council" April 18, 2011.

II. WIND GENERATION INFORMATION REQUEST FORM

Please fill out all fields. If field is not applicable, fill with "N/A."

PART A: Interconnection Feasibility Study Data

With the information provided in this section, *Steady-State Thermal Study* and *Steady-State Voltage Analysis* will be performed to evaluate the impact of the Wind project interconnection.

1. Overall Generating Facility Data

Item	Value	Unit
Point of interconnection (POI) ⁴ :		
Transmission Center (TC) ⁵ (Name)		
POI voltage level		kV
Maximum Facility net output at the POI		MW*
Generating Facility Location		latitude/longitude

*Power factor range to be evaluated: 0.85 lagging to 0.85 leading at the point of interconnection (POI) per MTR requirements

2. Interconnection Facilities – Tie Line Data

Item	Value	Unit
Nominal voltage		kV
Line length to POI		miles
Conductor type/size		kcmil
Phase configuration (Vertical/Horizontal)		

⁴ PREPA may support the selection of the POI with an optional scoping meeting that may be requested by the developer at no cost.

⁵ PREPA facility that has high voltage transmission lines connecting to it and is similar to a substation.

Item	Value	Unit
Rating		Amps

PART B: Full Interconnection System Impact Study Data

With the information provided in this section, *Short Circuit Study & Breaker Duty Review*, and *Dynamic & Transient Stability Analysis* will be performed to evaluate the full impact of the Wind project interconnection to the grid.

3. Wind Turbine Generator (WTG) Data

3.1. WTG Data for Type 2 or 3

Item	Value	Unit
Turbine Type		
Turbine manufacturer / model		-
Turbine nominal rating		MW
Number of wind turbines generators of the selected type		
MVA base		MVA
Terminal voltage		kV
Nominal power factor		
Rotor Resistance		Ohm
Stator Resistance		Ohm
Rotor Reactance		Ohm
Stator Reactance		Ohm
Magnetizing Reactance		Ohm
Short Circuit Reactance		Ohm
Saturated sub-transient reactance, X"d(v)		p.u.

Item	Value	Unit
Control mode for the turbine		
Total Rotating Inertial I		p.u. on 100MVA base
X"1 – positive sequence subtransient reactance (saturated)		p.u. on 100MVA and nominal line voltage (kV) base
X"1 - – positive sequence subtransient reactance (unsaturated)		p.u. on 100MVA and nominal line voltage (kV) base
X2 – negative sequence reactance		p.u. on 100MVA and nominal line voltage (kV) base
X0 – zero sequence reactance		P.U. on 100MVA and nominal line voltage (kV) base

*If the site will be using more than one model/type of WTG, please add an additional Tables as necessary.

3.2. WTG Data for Type 4

Item	Value	Unit
Inverter Manufacturer		
Inverter Model		
Inverters MVA rating		MVA
Number of Inverters		
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms

4. Main Power Transformer Data

Item	Value	Unit
Number of Transformers		_
Rating (ONAN/ONAF/OFAF)		MVA
Winding Type (2W, 3W)		
Winding Nominal Voltages (Primary/secondary/tertiary)		kV
Winding Connection types: Delta or Wye (Primary/secondary/tertiary)		
Fixed Taps available		Number of Taps /%V
		Z1%
Immediance on MXA hose	bedance on MVA base Z0%	X/R Z1
Impedance on MVA base		Z0%
X/R Z0	X/R Z0	

5. Wind Turbine Generator Step-Up Transformer Data (GSU)

Item	Value	Unit
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV
Winding Connection types: Delta or Wye (Primary/secondary)		
Fixed Taps available		Number of Taps /%V
Impedance on MVA base		Z1%
	X/R Z1	

Item	Value	Unit
		Z0%
		X/R Z0

6. Inverter Data and Inverter Step-Up Transformer Data for Battery Energy Storage System (BESS)⁶

6.1. Battery Energy Storage System (BESS) Inverter step-up Transformer Data

Item	Value	Unit
Number of Transformers		_
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV
Winding Connection types: Delta or Wye (Primary/secondary)		
Fixed Taps available		Number of Taps /%V
		Z1%
Impedance on MVA base		X/R Z1
		Z0%
		X/R Z0

⁶ PREPA Minimum Technical Requirements are applicable to the Generating Facility for connection of the facility to the power grid. These requirements indicate that an energy storage system is necessary for the integration of the Generating Facility to the power grid.

6.2. Battery Energy Storage System (BESS) Inverter Data

Item	Value	Unit
Number of Inverters to be Interconnected		
Inverter Manufacturer		
Inverter Model		
Inverters MVA rating		MVA
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms

7. Interconnection Facilities – Tie Line Data (complement to the line data in Part A)

Item	Value	Unit
Positive sequence resistance (R) for entire length		p.u.*
Positive sequence reactance (X) for entire length		p.u.*
Zero sequence resistance (R0) for entire length		p.u.*
Zero sequence reactance (X0) for entire length		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

8. Equivalent Collector System Impedance Data

Item	Value	Unit
Nominal voltage		kV
Rating		Amps
Positive sequence resistance (R)		p.u.*
Positive sequence reactance (X)		p.u.*
Zero sequence resistance (R0)		p.u.*
Zero sequence reactance (X0)		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

9. Additional Reactive Compensation Devices (if applicable)

Item	Value	Unit
Type of Device		-
Total Reactive Capability		-
Q max		MVAr
Q min		MVAr

10. Dynamic Models

The Wind Generation Turbines and BESS aggregate dynamic mathematical models are required in PSS/E v33 format (.dyr file). Since the Wind Generation Turbines and BESS are connected on the AC side, each inverter type requires a separate aggregate model. Dynamic mathematical model for additional reactive compensation devices shall be included if applicable.

PSS/E generic WPP Dynamic Models (Type 2)
WT2G1
WT2E1

WT12T1	
WT12A1	
VTGTPAT	
FRQTPAT	

PSS/E generic WPP Dynamic Models (Type 3)
REGCAU1
REECAU1
REPCTAU1
WTDTAU1
WTPTAU1
WTARAU1
WTTQAU1
VTGTPAT
FRQTPAT

PSS/E generic WPP Dynamic Models (Type 4)
REGCAU1
REECAU1
REPCTAU1
VTGTPAT
FRQTPAT

PSS/E generic BESS Dynamic Models

REGCAU1	
REECCU1	
REPCTAU1	
VTGTPAT	
FRQTPAT	

PSS/E library Static Var Systems and FACTS
SVSMO3U2*
SVSMO2U2*
SVSMO3U2*
CSVGN1
CSVGN3
CSVGN4
CSVGN5
SWSHNT
CDSMS1
CSTATT
CSTCNT
ABBSVC1
CHSVCT
CSSCST

*WECC, "Generic Static Var System Models for the Western Electricity Coordinating Council" April 18, 2011.

III. BATTERY ENERGY STORAGE RESOURCE INFORMATION REQUEST FORM

Please fill out all fields. If field is not applicable, fill with "N/A."

PART A: Interconnection Feasibility Study Data

With the information provided in this section, *Steady-State Thermal Study* and *Steady-State Voltage Analysis* will be performed to evaluate the impact of the BESS project interconnection.

1. Overall Generating Facility Data

Item	Value	Unit
Point of interconnection (POI) ⁷ :	_	_
Transmission Center (TC) ⁸ (Name)		
POI voltage level		kV
Maximum Facility net output at the POI		MW*
Generating Facility Location		latitude/longitude

*Power factor range to be evaluated: 0.85 lagging to 0.85 leading at the point of interconnection (POI)

* Steady State Model – Include a steady state model in PSS/E version 33 (.raw or .sav) of the facility. The model should include the equivalent representation of the PV and/or BESS, pad-mount transformers, collector cables, station transformer, and generator tie-line, if applicable.

2. Interconnection Facilities – Tie Line Data

Item	Value	Unit
Nominal voltage		kV
Line length to POI		miles
Conductor type/size		kcmil

⁷ PREPA may support the selection of the POI with an optional scoping meeting that may be requested by the developer at no cost.

⁸ PREPA facility that has high voltage transmission lines connecting to it and is similar to a substation.

Item	Value	Unit
Phase configuration (Vertical/Horizontal)		
Rating		Amps

PART B: Full Interconnection System Impact Study Data

With the information provided in this section, *Short Circuit Study & Breaker Duty Review*, and *Dynamic & Transient Stability Analysis* will be performed to evaluate the full impact of the Utility-Scale Resource's interconnection to the Transmission System.

3. Main Power Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Type (2W, 3W)		
Winding Nominal Voltages (Primary/secondary/tertiary)		kV
Winding Connection types: Delta or Wye (Primary/secondary/tertiary)		
Fixed Taps available		Number of Taps /% V
		Z1%
Impedance on MVA base		X/R Z1
		Z0%
		X/R Z0

4. Energy Storage Resources – Electrical Source Function Data

Item	Value	Unit
Total Storage Capability		MWh
Charge/Discharge Cycle Efficiency		%
Rated Storage Discharging Power		MW
Discharge Duration under Rated Power		Hours
Maximum Storage Discharging Power		MW
Discharge Duration under Maximum Power		Hours
Rated Storage Charging Power		MW
Charge Duration under Rated Power		Hours
Maximum Storage Charging Power		MW
Charge Duration under Maximum Power		Hours
Grid Interface Device (Type of Converter)		-
Minimum State of Charge		%
Maximum State of Charge		%
Maximum Grid Overload Capability of Interface Device		MW
Reactive Capability (Qmax and Qmin)		MVar
Maximum Fault Contribution Current of Energy Storage Resouce		p.u.
Life Span		cycles

5. Inverter Data and Inverter Step-Up Transformer Data

Item	Value	Unit
Number of Transformers		
Rating (ONAN/ONAF/OFAF)		MVA
Winding Nominal Voltages (Primary/secondary)		kV
Winding Connection types: Delta or Wye (Primary/secondary)		
Fixed Taps available		Number of Taps /%V
Impedance on MVA base		Z1%
		X/R Z1
		Z0%
		X/R Z0

5.1. Energy Storage Resource -- Step-Up Transformer Data

5.2. Energy Storage Resource -- Inverter Data

Item	Value	Unit
Number of Inverters to be Interconnected		
Inverter Manufacturer		
Inverter Model		
Nominal Terminal Voltage		kV
Expected average high ambient temperature for the site		°C
Individual generator rated MVA at the temperature above		MVA

Item	Value	Unit
Individual generator rated MW at the temperature above		MW
Individual generator power factor at rated MW		
Individual generator power factor regulation range at rated MW output (Leading (-))		
Individual generator power factor regulation range at rated MW output (Lagging (+))		
Generator Voltage Regulation Range (+/-)		%
Phase (Single Phase / Three Phase)		
Connection (Delta, Grounded WYE, Ungrounded WYE, Impedance Grounded)		
Maximum design fault contribution current from inverter (based on IEC 60909)		
Initial symmetrical short-circuit current (Ik")		Amps
First Peak of short circuit current (ip)		Amps
Steady-state short circuit current (Ik)		Amps
Time to reach steady-state current		ms

6. Interconnection Facilities – Tie Line Data (complement to the line data in Part A)

Item	Value	Unit
Positive sequence resistance (R)		p.u.*
Positive sequence reactance (X)		p.u.*
Zero sequence resistance (R0)		p.u.*
Zero sequence reactance (X0)		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

7. Equivalent Collector System Impedance Data

Item	Value	Unit
Nominal voltage		kV
Rating		Amps
Positive sequence resistance (R) for entire length		p.u.*
Positive sequence reactance (X) for entire length		p.u.*
Zero sequence resistance (R0) for entire length		p.u.*
Zero sequence reactance (X0) for entire length		p.u.*
Line charging (B/2)		p.u.*

*On 100-MVA and nominal line voltage (kV) Base

8. Additional Reactive Compensation Devices (if applicable)

Item	Value	Unit
Type of Device		-
Total Reactive Capability		-
Q max		MVAr
Q min		MVAr

9. Dynamic Models

PREPA requires aggregate dynamic mathematical models of Energy Storage Resource proposals in PSS/E v33 format (.dyr file).

PSS/E Generic Dynamic Models
REGCAU1
REECCU1
REPCAU1
VTGTPAT
FRQTPAT

PSS/E library Static Var Systems and FACTS
SVSMO3U2*
SVSMO2U2*
SVSMO3U2*
CSVGN1
CSVGN3
CSVGN4
CSVGN5
SWSHNT
CDSMS1
CSTATT
CSTCNT
ABBSVC1
CHSVCT

CSSCST

*WECC, "Generic Static Var System Models for the Western Electricity Coordinating Council" April 18, 2011.

[REDACTED]

Appendix L. Puerto Rico Electricity Sector Transformation





Sourcing Intelligence® Quick Start for Suppliers

PowerAdvocate Sourcing Intelligence enables suppliers to access buyer documents and submit documents over a web-based sourcing platform.

Logging In

- 1. Launch a web browser and go to www.poweradvocate.com.
- 2. Click the orange Login button.
- 3. Enter your account User Name and Password (both are case-sensitive) and click Login.
- 4. Click the Events tab if it is not already displayed.

Dashboard

Your Dashboard lists the events you have been invited to. A line divides currently accessible events from others.



- Click an event name to view its Status tab, which displays a summary of your activity and key event dates. To view specific details of an event, click the buttons 1 2 3 4 5 to view the corresponding tab.
- To return to the Dashboard, click Dashboard in the navigation bar at the top of the window.
- An event will not appear on your Dashboard until the Bid Event Coordinator has added you as a participant.

In addition to the Events tab, you may also see:

- An Opportunities tab, if a buyer opens an event to all PowerAdvocate suppliers; you can review a high-level event description, and may request full access to the event.
- A Portals tab, if a buyer subscribes to PowerAdvocate Supplier Intelligence
- A Contracts tab, if a buyer subscribes to PowerAdvocate Contract Intelligence.

Sourcing Intelligence® Quick Start for Suppliers

Downloading Bid Packages

2 of

All of the buyer's bid package documents, including specifications and engineering drawings, are centrally stored on the PowerAdvocate platform. To view bid documents, click 1 on your Dashboard or on the 1. Download Documents tab from within the event.

Status 1. Downlead Documents 2. Up	ead Documents	3. Commerc	tal Data	4. Technical Data	5. Pricing Data	Messaging
Pre-Bid Bid						
Select All Download Selected Files Clear All						
Technical Information						
Document Description	Issue Date	Ref ID	<u>Rev fi</u>	File Name	File Size	Dewnload
📄 Pier23 Pilinge RFP	5/30/10	133-01	С	p23pile.pdf	742 KB	

- You can access the Bid sub-tab after the bid opens. You can access Buyer documents before the event from a Pre-Bid sub-tab if the buyer requires a Pre-Bid submittal; the buyer must approve your submittal before you can access the Bid sub-tab. Likewise, you will see a Post Bid sub-tab if the buyer invites you to participate in post-bid negotiations.
- To view or download a document, click the file name; you may be prompted to open or save the file.
- To download multiple documents:
 - 1. Select the checkbox in the Download column for each document you wish to download, or click Select All.
 - 2. Click Download Selected Files.
 - 3. Click Start to download a .zip file containing the selected documents.

Uploading Documents

To upload your documents, click 2 on your Dashboard, or on the 2. Upload Documents tab from within the event.

Status 1. Downlead Documents 2.	Upload Documents	3. Commercial Data	4. Technical Data	5. Pricing Da	sta N	lessaging
Pre-Bid Bid						
Upload Bid Proposal						
Document Type *	Issue Date	Reference ID			* Require	ed Field
(Select from List)	01/06/2011	*				
Select File(s) Location	Selected File(s)					
Browse	p23abp_rev2.pdf X p23eir.pdf X	Submit Document				
Bid Submissions						
Commercial						
Document Description	Issue Date Ref	ID File Name		File Size U	pload Date	Actions
🔁 Pier 23 Architectural	6.01/10 133	22 p23abp.pdf		420 KB 6	/01/10	/ X

- As with the 1. Download Documents tab, you may be able to access and upload documents to Pre-Bid, Bid, and Post Bid sub-tabs as appropriate.
- To upload a document:
 - 1. Specify a Document Type, and edit the Issue Date and Reference ID if necessary.
 - Click Browse, navigate to and select the document, and then click Open; multiple files can also be compressed into one .zip file for upload.
 - 3. Click Submit Document.
- Late documents are accepted at the Buyer's option, but are flagged in red text.

Sourcing Intelligence[®] Quick Start for Suppliers

Completing Datasheets

To view the event datasheets, click 3 1 so your Dashboard or on the 3. Commercial, 4. Technical, or 5. Pricing tabs from within the event. Buttons/tabs are grayed out (e.g., 3) if the buyer did not create a particular type of datasheet.

Status 1. D	wnioad Documents	2. Upload Documents	3. Commercial Data	4. Technical Data	5. Pricing Data	Messaging
1. Supplier Info .	2. MöWBE Rep	3. Company - 27 .	4. Commercial	1		🖨 Printabl
Save Data Your	information can be cha	arged after it is saved. If yo	u leave this page without	saving it first, you will to	se all unsaved data.	
What is the name an Bupplier's represent contact") designated	d tile of the ative ("the to respond to					

- Complete the datasheets over the course of the Bid Open period; datasheets may have multiple sub-tabs.
- Click Save Data often to avoid data loss. Once the bid closes, saved data is automatically submitted to the buyer.
- Once the bid closes, you are normally unable to modify datasheets. However, at the buyer's option, you may upload additional documents on the 2. Upload Documents tab (which are flagged as being late).
- To view a printer-friendly version of a datasheet, click Derivative.

Communicating with the Bid Event Coordinator

Buyer companies use one of two communication options in Sourcing Intelligence: Email or PowerAdvocate Messaging.

Email

3 of

Click the circon next to the Buyer Contact's name to contact them through your default email application (e.g., Outlook).

17579 : Widgets and Gizmos	Electric Power Utility
Open: 08/19/09 08:00:00 AM EDTClose: 09/15/09 04:00:00 PM EDT	Time Remaining: 21 days 2 hours 55 mins 5 secs
Buyer Contact: Cathy Walsh 🖾 1. Download Documents 2. Upload Documents 3. Commercial Data	4. Technical Data 5. Pricing Data
1. Supplier Info 2. M&W9E Rep 3. Company- 27 4. Commercial	📇 Printable
Save Data Your information can be changed after it is saved. If you leave this page without si	aving it first, you will lose all uneaved data.

PowerAdvocate Messaging

To send a message to the Bid Event Coordinator (BEC), go to the Messaging tab and click Create New Message. To read or reply to a message from the BEC, click the message subject.

Status	1. Download RFP	2. Upload Proposa	I 3. Commercial Data	4. Technical Data	5. Pricing Data	Messaging
Create	New Message	Search Int	00X: 5	Search	Send email notificatio	ns? @Yes 🔿 No
• Inbo	х (3)					New/Unread (1)
Status						
23	9/29/07 2:58 PM EDT	Peter Holm	Elsbeth International	engineering s	specialist	
9	9/29/07 2:53 PM EDT	Cindy Walsh	Electric Power Utility	site visit resch	eduled	
9	9/29/07 2.62 PM EDT (3)	Cindy Walsh	Electric Power Utility	structural spec	ialist	
► Sent	: (1)					
► Draft	is (1)					

- You can send messages to the BEC and Buyer Team; replies are sent your Supplier Team and the Buyer Team.
- BECs can message the Buyer Team and all Supplier Teams at once; Supplier Teams can respond but not see other Supplier Teams' responses.
- Supplier Teams cannot message each other, or see other Supplier Teams' correspondence with the Buyer Team.
- You can receive external email notification of new PowerAdvocate messages.



Getting More Information

Click Help on the navigation bar to display the online help.

Dashboard Profile Company Help Logout

- Supplier documentation can be downloaded from the online help system.
- Call PowerAdvocate support at 857-453-5800 (Mon-Fri, 8 a.m. to 8 p.m. Eastern Time) or email support@poweradvocate.com.

May 2016

Copyright 2011–2016 Power Advocate, Inc. CONFIDENTIAL — This document and its contents are the confidential property of Power Advocate, Inc. PowerAdvocate 179 Lincoln Street Boston, MA 02111 USA Support: 857.453.5800 Fax: 857.453.5656 Email: support@poweradvocate.com

FORM OF REFERENCE PROJECT COMPLIANCE CERTIFICATE

Dated as of [Month/Date/Year]

To: The Puerto Rico Electric Power Authority

Attn: Chief Executive Officer

Re: Reference Project for [Name of Proponent]

We refer to (i) the Request for Proposals No. [•] that the Puerto Rico Electric Power Authority ("**PREPA**") issued on [October 15], 2021 (as amended, the "**RFP**"), and to (ii) the [*name and description of project*] (the "**Reference Project**"). Unless the context otherwise requires, capitalized terms have the meanings ascribed to them in the RFP.

In accordance with paragraphs 2-4 of Table 3-1 (*Minimum Eligibility Requirements*) of the RFP, we, [*Name of Proponent*], as a Proponent under the RFP process, hereby declare and certify to PREPA that, as of the date of this Certification and during the past three (3) years:

- 1. no material or sustained violation of Applicable Law has occurred with respect to any environmental matter involving the development, construction or operation of the Reference Project;
- 2. the Reference Project has complied with all energy-related policies, practices and regulations and all Applicable Law; and
- 3. the Reference Project has not engaged in, nor is there been any record of, Unsatisfactory Performance with respect to the Reference Project.

Signed by

[*Printed Name of Authorized Representative*] Authorised Representative

[NAME OF PROPONENT]

FORM OF NO DISBARMENT CERTIFICATION

Dated as of [*Month/Date/Year*]

To: The Puerto Rico Electric Power Authority

Attn: Chief Executive Officer

Re: [Name of Proponent] – No Disbarment

We refer to the Request for Proposals No. [•] that the Puerto Rico Electric Power Authority ("**PREPA**") issued on [October 15], 2021 (as amended, the "**RFP**"). Unless the context otherwise requires, capitalized terms have the meanings ascribed to them in the RFP.

In accordance with the requirements of the No Disbarment Criteria section of Table 3-1 (*Minimum Eligibility Requirements*) of the RFP, we, [*Name of Proponent*]¹⁰, as a Proponent under the RFP process, hereby declare and certify to PREPA that, as of the date of this Certification, neither we, nor any of our Affiliates, nor any executive officer or member of the board of any of the foregoing parties has been the subject of any of the following adverse findings within the past five (5) years:

- 1. pending litigation with the Government of Puerto Rico or any state;
- 2. arson conviction or pending case;
- 3. harassment conviction or pending case;
- 4. sale tax lien or substantial tax arrears;
- 5. fair housing violations or current litigation;
- 6. a record of substantial building code violations or litigation against properties owned and/or managed by the Proponent or by any entity or individual that comprises the Proponent;
- 7. past or pending voluntary or involuntary bankruptcy proceeding; or
- 8. conviction for fraud, bribery, or grand larceny.

 $^{10\,}$ Note: For a Proponent consortium, the Lead Member and each of the Other Members must provide this certification.

Signed by

[*Printed Name of Authorized Representative*] Authorised Representative

[NAME OF PROPONENT]¹¹

¹¹ Note: For a Proponent consortium, the Lead Member and each of the Other Members must sign a certification.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we [•], (the "**Principal**") and [•], having its principal offices at [•], a corporation duly organized and existing under the Laws of the COMMONWEALTH OF PUERTO RICO and authorized to transact business in Puerto Rico (the "**Surety**") undertake to pay the PUERTO RICO PUBLIC-PRIVATE PARTNERSHIP'S AUTHORITY, a public corporation and governmental instrumentality of the Commonwealth of Puerto Rico (the "**Obligee**"), of [•] United States Dollars (§[•]) (the "**Penal Sum**"), lawful money of the United States of America, for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, and successors, jointly and severally firmly by these presents;

WHEREAS:

- A. on [October 15], 2021, Obligee issued the Request for Proposals for Renewable Energy Generation and Energy Storage Resources, Tranche 2 of 6 (as amended, the "**T2 RFP**");
- B. Principal has submitted a proposal to make available one or more renewable energy, energy storage or virtual power plant resources in response to the T2 RFP (the "**Proposal**"); and
- C. Principal desires to issue this Bid Bond as "*Proposal Security*" contemplated by Section 6.6 (*Proposal Security*) of the T2 RFP for the benefit of Obligee as good and sufficient surety for the faithful compliance by Principal with the requirements of the T2 RFP;

NOW, THEREFORE, if (i) the Obligee selects the Proposal of the Principal for Phase III evaluation under the T2 RFP, (ii) any one of the four events set forth in paragraphs (aa) – (dd) of Section 6.6 (*Proposal Security*) of the T2 RFP occurs with respect to the Principal acting as a "*Proponent*" as defined in the RFP, and (iii) the Principal pays to the Obligee the Penal Sum in full, then this obligation shall be null and void, otherwise to remain in full force and effect.

IT IS hereby understood and agreed that this bond will be effect from the date hereof until [October 15], 2022, unless its obligation is fulfilled prior to such date.

IN WITNESS WHEREOF, the above jointly and in solid bound parties have executed this instrument under their several seals this $[\bullet]$ day of $[\bullet]$, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives pursuant to authority of its governing body.

	(SEAL)		(SEAL)
PRINCIPAL		SURETY	
 TITI E		ATTODNEY IN EACT	
IIILE		ATTORNET IN FACT	

[Attached.]

[Attached.]

SITE CONTROL CERTIFICATE

Dated as of [*Month/Date/Year*]

To: The Puerto Rico Electric Power Authority

Attn: Chief Executive Officer

Re: Site Control

We refer to (i) the Request for Proposals No. $[\bullet]$ that the Puerto Rico Electric Power Authority ("**PREPA**") issued on $[\bullet]$, 2021 (as amended, the "**RFP**"), and (ii) our proposal to install, own and operate [*describe Energy Resource*] (the "**Facility**"), located in $[\bullet]$. Unless the context otherwise requires, capitalized terms have the meanings ascribed to them in the RFP.

As a Proponent under the RFP process, we hereby declare and certify to PREPA that, as of the date of this Certificate, we [have the ability to obtain / have] control over each parcel of land, which we will require for the installation and operation of the Facility and the sale of energy or capacity in accordance with the terms of the template [PPOA/ESSA/GSA], attached to the RFP:

Signed by

[*Printed Name of Authorized Representative*] Authorised Representative

[NAME OF PROPONENT]

PREPA recognizes the following holidays and observes all holidays that fall on a Sunday on the following Business Day:

DAY	<u>CELEBRATION</u>
January 1	New Year's Day
January 6	Three Kings Day/Epiphany
3rd Monday in January	Martin Luther King
3 rd Monday in February	Presidents and Illustrious Puerto Ricans Day
March 2	American Citizenship Day
March 22	Emancipation Day
Friday of Holy Week	Good Friday
Sunday of Holy Week	Easter Sunday
2 nd Sunday in May	Mothers' Day
Last Monday in May	Memorial Day
3 rd Sunday in June	Fathers' Day
June 19	Juneteenth National Independence Day
July 4	Independence Day
July 25	Puerto Rico Constitution Day
1 st Monday in September	Labor Day
2 nd Monday in October	Columbus Day
November 19	Discovery of Puerto Rico
November 11	Veterans Day
4 th Thursday in November	Thanksgiving Day
December 24	Christmas Eve
December 25	Christmas Day
