APPENDIX I

INTERCONNECTION DESCRIPTION AND SPECIFICATIONS

1. Description of the Interconnection Facilities

The electrical interconnection single line attached as Appendix I-1 (*Electrical Interconnection Single Line*) identifies the Interconnection Point, PREPA Interconnection Facilities, the Resource Provider Interconnection Facilities, and metering locations.

2. Interconnection Point Specifications

Resource Provider shall perform and comply with the following interconnection specifications for the Resource Provider Interconnection Facilities. These specifications and standards do not constitute an all-inclusive scope of work. The Parties will require a Facility Study and a System Impact Study to determine the design as described in Article 3 (*Pre-Operation Period*).

a. Codes and Standards Requirements:

All designs should be in accordance with the latest PREPA Design Criteria Documents, applicable ANSI/IEEE and NESC standards, and building codes. This includes:

1. the following design criteria documents (the "**PREPA Design Criteria Documents**" or "**DCDs**"):

   i. PREPA Civil Design Criteria;

   ii. PREPA Protection and Control Design Criteria;

   iii. PREPA Substation Design Criteria;

   iv. PREPA Transmission Design Criteria;

   v. PREPA Distribution Design Criteria;

   vi. PREPA Drawings and Specifications Design Criteria; and

   vii. PREPA Telecommunication Design Criteria;

2. NECA/BICSI 607, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings;

3. American Concrete Institute (ACI) Design Codes and Construction Specifications;

4. American Institute of Steel Construction (AISC);

5. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE);

6. American Welding Society (AWS);

7. American Wood Protection Association (AWPA);

8. Association of Edison Illuminating Companies (AEIC);
9. Building Industry Consulting Services International (BICSI);
10. Code of Federal Regulations (CFR);
11. Construction Specifications Institute (CSI);
12. Electric Power Research Institute (EPRI);
13. Federal Aviation Administration (FAA);
14. Federal Communications Commission (FCC);
15. Illuminating Engineering Society (IES);
16. Institute of Electrical and Electronics Engineers (IEEE);
17. Insulated Cable Engineers Association (ICEA);
18. International Electrotechnical Commission (IEC);
19. ITSIMM 6th Edition - Information Transport Systems Installation Methods Manual;
20. National Electrical Code (NEC);
21. National Electrical Manufacturers Association (NEMA);
22. National Electrical Safety Code (NESC);
23. National Fire Protection Association (NFPA);
24. NECA/BICSI 568, Standard for Installing Commercial Building Telecommunications Cabling;
25. North American Electric Reliability Corporation (NERC);
26. OSPDRM 5th Edition - Outside Plant Design Reference Manual;
27. Puerto Rico Building Code 2018;
28. Regulations per the Commonwealth of Puerto Rico;
29. Rural Utilities Service (RUS), United States Department of Agriculture;
30. RUS 1724E-300, U.S. Dept. of Agriculture Design Guide for Rural Substations;
31. TDMM 14th Edition - Telecommunications Distribution Methods Manual;
32. Telecommunications Industry Association (TIA);

33. ANSI/TIA 568.0-D, Generic Telecommunications Cabling for Customer Premises;

34. ANSI/TIA 569-E, Telecommunications Pathways and Spaces;

35. ANSI/TIA 606-C, Administration Standard for Telecommunications Infrastructure;

36. ANSI/TIA 607-D, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises;

37. ANSI/TIA-1005-A, Telecommunications Infrastructure Standard for Industrial Premises; and

38. ANSI/TIA-758-B, Customer-Owned Outside Plant Telecommunications Infrastructure Standard.

b. Transmission Line Requirements:

1. Resource Provider shall perform the following tasks:

i. all ROW/Easement acquisition, including any studies, environmental permitting, real estate acquisitions, *etc.* required as per the Agreement;

ii. geotechnical soil borings, grounding tests, and studies along the transmission corridor and right of way;

iii. all applicable transmission designs and calculations typically found in typical transmission line design;

iv. stringing charts, engineered steel drawings, calculations, and PLS-CADD models of the transmission structures, including the applicable conductor size and OPGW (with 48 Fibers);

v. ampacity, shielding, and conductor sizing calculations for the transmission structure for the Interconnection Facilities;

vi. design and construction of foundations for transmission structures for the Interconnection Facilities;

vii. all transmission and distribution line design required for project completion; and

viii. evaluation of existing transmission and distribution poles that may be modified due to new conductors or equipment additions.

2. PREPA shall review and provide comments on all Resource Provider's drawings, submittals and design inputs for Resource Provider's transmission line design.

c. Telecommunication Requirements (in addition to the requirements as identified in paragraph (a) of Section 2 (*Interconnection Point Specifications*) of this Appendix I):

1. Resource Provider shall perform the following tasks:

   i. install, wire, and program the SCADA Remote Terminal Units (RTUs) at the Resource Provider Interconnection Facilities and the Site;

   ii. install and wire the telecommunication equipment for the Resource Provider Interconnection Facilities;

   iii. programming the communication settings for the relays, meters, and all miscellaneous equipment connected to the RTU;

   iv. installation of conduits for control cables from the equipment to the control house;

   v. installation of telecommunications pathways at the Resource Provider Interconnection Facilities, including conduits, cable trays, racks, among others;

   vi. provide and install telecommunications equipment power systems, with telecommunications equipment labeling and color-coding to comply with ANSI/TIA 606 Standard;

   vii. program the DSM with the signal list provided by PREPA;

   viii. design of the control house layout at the Resource Provider Interconnection Facilities and collector Site includes location, civil design, internal layout, electrical design for lightning, convenience outlets, battery bank, and 125Vac supply panels, disconnects, and other associated materials and localization areas for SCADA, DSM, and telecommunications equipment;

   ix. programming the telecommunications equipment (routers, firewalls, and network equipment); and

   x. install the fiber optic connections, including 48-fiber OPGW, pathways, and terminations for the protection relays to allow the PREPA Interconnection Facilities to be fully operational.

2. PREPA shall perform the following tasks:

   i. review and comment on all submittals and design input for all design phases for the telecommunications packages; and

   ii. support the integration of the new equipment into the overall PREPA network.

d. Commissioning and Testing Requirements:

1. Resource Provider shall perform the following tasks:

   i. all Outages and construction work sequence plans will be coordinated with and approved by PREPA;

ii. provide any revisions to the Testing Protocol and plans for PREPA's approval prior to performing any acceptance test and energization of any equipment;

iii. perform the acceptance and commissioning tests on the equipment and auxiliaries according to PREPA's practices and Applicable Standards at Resource Provider's collector site only, including voltage signals, current signals, relay outputs, breaker status, and cable continuity;

iv. perform grounding tests at all sites, including the transmission corridor;

v. perform testing on the interconnection of the transmission line;

vi. perform impedance testing to validate the proper installation of all transmission and high voltage conductors and bus;

vii. perform tests for the wiring of protection and control systems, RTU, DSM, Transient Recorder, and others associated services for the Resource Provider Interconnection Facilities;

viii. perform adjustments and operation tests for the protection and control systems;

ix. submit all test reports signed and sealed by a PR licensed electrical engineer for PREPA's review;

x. perform preliminary testing of the protection, control and telecommunication system and the integration into Resource Provider's SCADA system. Depending on the type of alarm or signal into Resource Provider's SCADA system, PREPA personnel may act as a witness to validate the input. PREPA will perform final validation and acceptance of the SCADA integration;

xi. perform operation tests for the telecommunication systems;

xii. perform operation tests for the DSM;

xiii. perform operation tests on the equipment and auxiliaries;

xiv. perform operation tests for the transient recorder;

xv. verification of the OTDR tests for fiber optic cable performed by Resource Provider for the following cables:

A. fiber cable between the Interconnection Point and the Facility;

B. fiber cable for interconnection to PREPA's network; and

C. verification of telecommunications facilities and equipment installations performed by Resource Provider at the Resource Provider Interconnection Facilities;

This work includes verification, testing, configuration, and inspection of equipment specified by PREPA and materials, cable installation, and testing by Resource Provider;

xvi. provide a PREPA's site representative and the required technical resources from PREPA to comply with the Milestone Schedule;

xvii. witness all tests and commissioning of the electrical equipment installed at the Resource Provider Interconnection Facilities and the Site;

xviii. submit all test protocols for PREPA approval; and

xix. submit all test results in a test book for PREPA approval.

2. PREPA shall perform the following tasks:

i. evaluate the test results and settings of the protection relays for Interconnection Facilities;

ii. evaluate the test results and settings of the communication equipment at the Interconnection Facilities;

iii. witness all tests and commissioning of the electrical equipment installed in PREPA Interconnection Facilities;

iv. at existing PREPA sites where protection and control components are being updated, modified, or interconnected with, the tests should be done exclusively by PREPA;

v. perform final SCADA tests by PREPA acceptance test personnel from the point where Resource Provider consolidates SCADA data and transmits it to the PREPA SCADA system;

vi. perform the acceptance and commissioning tests on the equipment and auxiliaries according to PREPA's practices and Applicable Standards at the Interconnection Facility and remote ends; and

vii. perform end to end testing of all trips and controls by PREPA's Acceptance Tests Department personnel.

3. Other Requirements for Interconnection

Resource Provider shall:

a. dispose of all garbage generated because of the work, in accordance with Applicable Law;

b. comply with all environmental Laws, during and after construction, including:

1. submission of the Project Environmental Assessment to and receipt of approval from the Department of Natural and Environmental Resources of Puerto Rico and any other environmental, state and municipality Permits for the Resource Provider Interconnection Facilities;

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2. all the terms and conditions established in the approvals of the submitted plans, Permits, and endorsement from Governmental Authorities; and

3. upon the completion of the Resource Provider Interconnection Facilities, the closing of any of the acquired Permits that require closure; and

c. mitigate any environmental concerns and deficiencies found by PREPA's personnel or any regulatory agencies caused by them at any time.

APPENDIX K

OPERATING CHARACTERISTICS

I. FACILITY DESCRIPTION

Facility name: Barceloneta Solar

Site name: Barceloneta

Facility physical address: Carretera PR-2. Km. 60.3 y Km. 61.8, Barrio Sabana Hoyos, Arecibo, Puerto Rico

Total number of modules at the Facility: 184,444

Project elevation: 295 (feet above sea level)

Project latitude: 18.430649 (decimal form)

Project longitude: -66.594652 (decimal form)

Technology type: Solar PV

Specific module description: Tier 1 Supplier 540 W Bifacial

Interconnection Point for the Facility will have characteristics as follows:

Substation: BARCELONETA (115 kV)

II. OPERATIONAL CHARACTERISTICS

The Facility shall have a nameplate capacity of 60 MWac / ~99.6 MWdc, utilizing 540 W modules, 3600 MVA inverters, and fixed-tilt racking.

APPENDIX L

MINIMUM TECHNICAL REQUIREMENTS

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

Resource Provider shall comply with the following MTRs:

1. Voltage Ride-Through

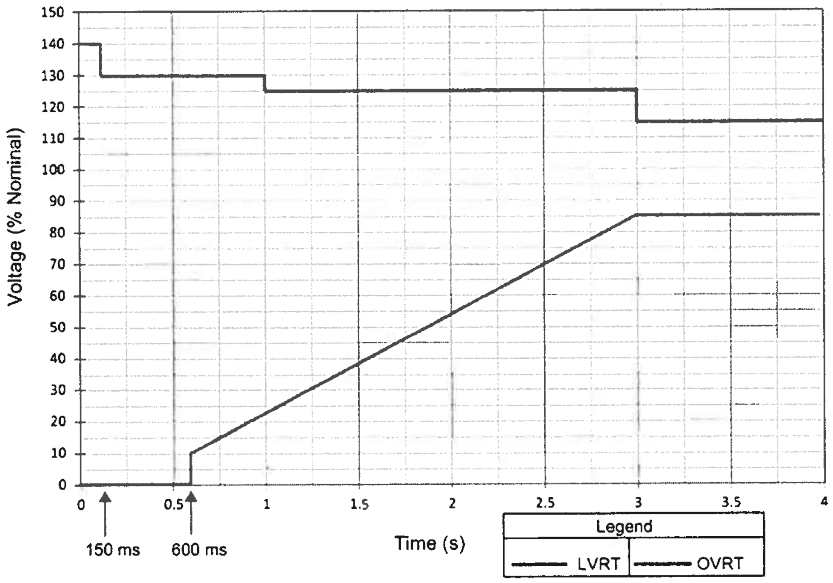

Figure 1 Voltage Ride-Through Requirements

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 one percent (1%) to five percent (5%). A dead band of fifteen (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 transmission center). 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 transmission center) shall be based in direct measurement of the Interconnection Point (connection to PREPA transmission center) 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 zero percent (0%) to ten percent (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 transmission center).

g. The VRS shall be calibrated such that a change in reactive power will achieve ninety-five percent (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 transmission center). 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 transmission center).

b. The +/- 0.85 power factor range should be dynamic and continuous at the Interconnection Point (connection to PREPA transmission center). 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 transmission center) voltage regulation range (ninety-five percent (95%) to one hundred five percent (105%) of rated voltage at the Interconnection Facilities).

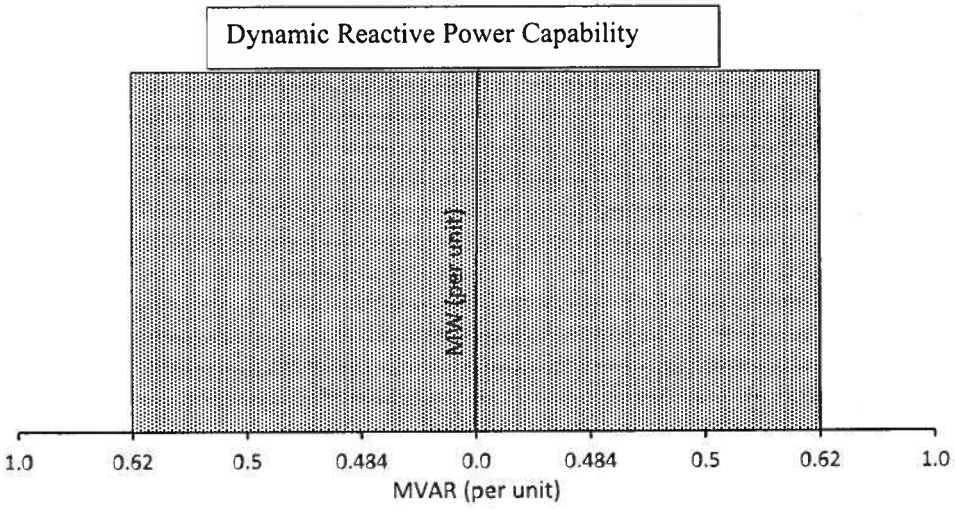

Figure 2 Reactive Power Capability Curve

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 five (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 three percent (3%) to five percent (5%) range. The Facility shall have controls that provide both for down-regulation and up-regulation. PV technologies, in combination with energy storage systems 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 three percent (3%) to five percent (5%) range droop characteristic. The droop shall be configurable from three percent (3%) to five percent (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 ten percent (10%) of the maximum AC active power capacity (established in the Agreement). The time response (full ten percent (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 (9^{th}) minute the real power primary frequency response shall not decrease at a ramp rate higher than ten percent (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 ten percent (10%) AC contracted capacity measured at the Interconnection Point

(connection to PREPA transmission center) 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 ninety-five percent (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 ten percent (10%) to one hundred ten percent (110%) of the maximum AC active power capacity (established in the Agreement). The Facility power output at the Interconnection Point (connection to PREPA transmission center) shall not exceed the maximum AC active power (established in the Agreement) 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 ten percent (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 + ten percent (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 transmission center). 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 transmission center); and for at least one (1) minute, a minimum effective power output capacity of forty-five percent (45%) of AC contracted capacity measured at the Interconnection Point (connection to PREPA transmission center). The transition from effective power output capacity to nominal power output capacity shall not exceed the ramp rate requirement of ten percent (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: ten percent (10%) of the contracted capacity for Frequency Response/Regulation for at least nine and a half (9.5) minutes (as described in Section 6 (*Frequency Response/Regulation*) of this Appendix L) and thirty percent (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

forty-five percent (45%) of the contracted capacity for at least one (1) minute at the Interconnection Point (connection to PREPA transmission center). Therefore, the minimum acceptable capacity for the energy storage system is a total combined size of forty percent (40%) of the contracted capacity, and for at least one (1) minute, the system has to have an effective capacity of forty-five percent (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 transmission center) in excess of the ten percent (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 Point (connection to PREPA transmission center) 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 Point (connection to PREPA transmission center) 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 auto-curtailment 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 Agreement. 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. Modelling 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. Resource Provider shall submit the official reports and certifications from Siemens – PTI, otherwise the mathematical model shall not be considered valid.

d. Resource Provider shall be responsible to 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.

APPENDIX M

OPERATING PROCEDURES

1. General

These Operating Procedures set out certain guidelines relating to the operation and maintenance of the Facility. As set out in Section 3.9 (*Protocols & Procedures*) of the Agreement, in the event of any conflict between the terms and conditions of these Procedures and the rest of the Agreement, the terms and conditions of the Agreement shall prevail. Resource Provider acknowledges and agrees that its compliance with these Procedures will not in any way relieve Resource Provider from any liability that it has under the Agreement.

The T&D Operator shall be deemed to be acting as PREPA's agent in its implementation of the Operating Procedures, and Resource Provider shall have the same rights, privileges and defenses against PREPA regarding the T&D Operator's actions as if PREPA had performed the functions assigned to the T&D Operator thereunder.

Each Party shall confirm or update the contact information of this Appendix M by written notice to the other Party no later than sixty (60) days prior to Initial Synchronization Date.

2. Definitions

Capitalized terms used but not defined in this Appendix M shall have the same meanings set forth in Section 1.1 (*Definitions*) of the Agreement.

In this Appendix M:

"**Curtailment Level**" has the meaning set forth in item (iii), paragraph (h) of Section 4 of Procedure V (*Monitoring and Enforcement of MTRs*) of these Operating Procedures.

"**Disconnection and Curtailment Event Log**" means a record of any disconnection or connection event, regardless of cause, which is in the form set out in Appendix M.1.1 (*Form of Grid System Event Log*).

"**Dispatch Center**" means each dispatch center operated by PREPA and/or the T&D Operator.

"**DSM**" means dynamic system monitoring equipment installed at the Facility.

"**ECC**" means the energy control center operated by the T&D Operator.

"**EMS**" has the meaning set forth in item (iv), paragraph (b) of Section 4 of Procedure I (*Dispatch of Power Generation*) of these Operating Procedures.

"**Facility Status Report**" means the report to be delivered by Resource Provider to the ECC substantially in the form set out in Appendix M.1.3 (*Form of Facility Status Report*).

"**MTR Corrective Action Report**" has the meaning set forth in subsection item (vi), paragraph (h) of Section 4 of Procedure I (*Dispatch of Power Generation*) of these Operating Procedures.

"**MTR Non-Compliance Report**" has the meaning set forth in item (vi), paragraph (h) of Section 4 of Procedure I (*Dispatch of Power Generation*) of these Operating Procedures.

"**Waiting Period**" means the Force Majeure Waiting Period and/or the Grid System Waiting Period, as applicable.

"**PPOA Operational Administrator**" means the representative appointed by T&D Operator to act as the operational administrator for the Facility.