**AMENDMENT NO.1**
**TO**
**POWER PURCHASE AND OPERATING AGREEMENT**
**BETWEEN**
**GO GREEN PUERTO RICO ALTERNATIVE ENERGY CORP.**
**AND**
**PUERTO RICO ELECTRIC POWER AUTHORITY**
2010-AI0001-A

**THIS AMENDMENT NO. 1** to the Power Purchase and Operating Agreement (this "Amendment No.1") dated as of November 4, 2010, between **GO GREEN PUERTO RICO ALTERNATIVE** ENERGY,CORP.("Seller") and **PUERTO RICO ELECTRIC POWER AUTHORITY** ("PREPA"). PREPA and Seller are herein individually referred to as a "Party" and collectively referred to as "Parties."

**RECITALS**

**WHEREAS,** Seller and PREPA entered into a Power Purchase and Operating Agreement, dated and effective as of July 3, 2009 (the "Agreement");

**WHEREAS,** PREPA's Governing Board through Resolution 3769 approved amending the Agreement to make it consistent with other similar technology power purchase contracts and authorized PREPA's Executive Director to execute such amendment; and

**WHEREAS,** Seller and PREPA desire to amend the Agreement as provided herein;

**NOW, THEREFORE,** in consideration of the premises and of the mutual covenants and agreements set forth herein and for other good and valuable consideration the receipt and sufficiency of which are hereby acknowledged, Seller and PREPA, intending to be legally bound, hereby agree as follows:

Section 1. Definitions.

1. Capitalized terms used herein, and not otherwise defined herein, shall have the meanings set forth in the Agreement.

J.D

Section 2. Amendments to the Agreement.

1. The first Whereas is hereby amended by replacing "39" with "40".

2. Article 1.13 definition of Debt Coverage Ratio is hereby deleted in its entirety and replaced by the following:

   1.13 "Intentionally left blank"

3. Article 1.16 of the Agreement is hereby deleted in its entirety and replaced by the following:

1.16 Effective Date - Shall mean the date on which the Parties have executed this First Amendment.

4. Article 1.23 "Facility" is hereby amended by, insert the words "up to" before the number "3D".

5. Article 1.66 definition of Working Capital is hereby deleted in its entirety and replaced by the following:

1.66 "Intentionally left blank"

6. Article 6.2 of the Agreement is hereby deleted in its entirety and replaced by the following:

"Seller covenants and warrants that the Seller's Complex shall generate its own reactive power (kVAr) such that the Facility shall be capable of operating with a power factor consistent with the Minimum Technical Requirements for Wind Turbine Generation (WTG) Projects included in Appendix G and that the Facility shall be operated at the voltage levels determined pursuant to Article 4, Pre- Commercial Operation Period, Section 4.5. Seller further covenants and warrants that its generator(s) shall be capable of operating at the maximum MVA consistent with the Minimum Technical Requirements for Wind Turbine Generation (WTG) Projects. Seller warrants that it will promptly correct any Seller's Complex design or construction defect that causes the Seller's Complex to have a material adverse effect on PREPA's voltage level or voltage waveform."

7. Article 6.15; is hereby amended by deleting the following:

"Notwithstanding the foregoing acknowledgement of this Section 6.15, if the Commonwealth of Puerto Rico or the Federal Government enacts legislation or promulgates regulations requiring PREPA to abide by a Renewal Portfolio Standard or any similar program requiring PREPA to include renewable energy in its portfolio of generation ("RPS"), PREPA can utilize the renewal energy produced by Seller's Complex to meet its obligations under such legislation and Seller shall cooperate with PREPA and shall take all steps necessary for such utilization, inclUding without limiting the scope of the foregoing, execution of documents and participation in filings with governmental agencies. PREPA will not have to pay any additional amounts for this right. Moreover, if the RPS approved by the Commonwealth of Puerto Rico or the Federal Government or regulations promulgated pursuant to any such approval in addition specifically requires that the Green Credits available to the Seller's Complex are necessary to comply with the enacted RPS, Seller will transfer to PREPA such Green Credits prospectively at no cost to PREPA. To the extent that more than one facility provides renewable energy to PREPA that would satisfy an RPS, when and if enacted, PREPA will acquire the RPS credits from each facility proportionately."

8. Article 6.18 of the Agreement is hereby deleted in its entirety and replaced by the following:

"From and after the Commercial Operation Date, Seller shall maintain a minimum working capital in an amount specified by the Project Lenders, but not less than $500,000 as calculated at the end of each Year in accordance with GAAP."

9. Article 9.1 of the Agreement is hereby deleted in its entirety and replaced by the following:

"Appendix C sets forth: (a) a description of the Interconnection Facilities, (b) a specification of the Interconnection Point, and (c) the information required for the interconnection study needed to interconnect the Facility to PREPA's system."

10. Article 9.3 of the Agreement is hereby deleted in its entirety and replaced by the following:

"Seller further agrees that the Seller's Complex interconnection is conditioned upon the installations, at Seller's cost, of the frequency regulation, voltage and dynamic reactive power support equipment consistent with the Minimum Technical Requirements for Wind Turbine Generation (WTG) Projects included in Appendix G. Examples of the aforementioned equipment are battery energy storage system, flywheel energy storage systems, static VAR compensators and STATCOMs. Seller shall install a dynamic system monitoring equipment as specified in Appendix C. Seller shall also be responsible for the costs of major improvements and upgrades in nearby transmission facilities affected by the integration of the Interconnection Facilities (ie upgrade of short circuit capability of transmission breakers, upgrade of transmission busbars, upgrade of power transfer capability of transmission lines, etc)."

11. Article 11.1 of the Agreement is hereby deleted in its entirety and replaced by the following:

For each Billing Period PREPA shall pay Seller an Energy Payment for the Net Electrical Output delivered and billed to PREPA as set forth below.

The Energy Payment (EP) shall be equal to:

EP = RATE x NEO (subject to annual escalation as set forth below)

Where:
EP is the Energy Payment

RATE = $0.125Kwh

NEO is the Net Electrical Output expressed in kilowatt hours

On an annual basis on the first anniversary of the Commercial Operation Date and each year thereafter, the Rate shall be escalated in an amount equal to one and a half percent (1.5%).

12. In Article 12.1, is hereby amended by, by replacing the number "39" with "40".

13. The Agreement is hereby amended by adding the following phrase at the end of Section 20.1:

"For avoidance of doubt, in no case shall the transfer of this Agreement to an affiliate of Seller be SUbject to PREPA's approval."

14. The Agreement is hereby amended by adding a new Section 23.3 as follows:

"PREPA hereby irrevocably and unconditionally, for itself and for any Person claiming by or through PREPA: (a) agrees that the execution, delivery and performance by it of this Agreement does and will constitute private and commercial acts done and performed for private and commercial purposes; (b) waives any and all rights, claims, defenses and immunities it or any of its assets has or may in the future have in any jurisdiction based on sovereign immunity or any similar rights, claims or defenses, in each case in respect of any claims or proceedings, the receipt of notice, service of process, compliance with judgments or orders or the enforcement of any such judgment, award or order in each case arising in respect of this Agreement or transactions contemplated in this Agreement; and (c) consents generally in respect of the enforcement of any judgment, award or order against it or its assets in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such claims or proceedings."

15. Appendix C of the Agreement is hereby deleted and replaced by the revised Appendix C attached hereto.

16. The Agreement is hereby amended by adding a new Appendix G attached hereto- Minimum Technical Requirements for Wind Turbine Generation *(WTG).*

Puerto Rico Electric Power Authority

Miguel A. Cordero López
Executive Director

Go Green Puerto Rico Alternative Energy, Corp.

Justino Orozco Garcia
President

## Appendix C- INTERCONNECTION

Seller shall provide the following information to PREPA within ninety (90) Days following the Effective Date. Data submitted in a preliminary or estimated form shall be updated within thirty (30) Days after final equipment arrangements and specifications are established.

1. Electrical one-line diagram of the Facility.

2. Explanation of proposed equipment protection and control scheme (may be shown functionally on the one-line diagram).

3. Site plan showing plant layout, property lines, access roads and switchyard boundaries.

4. Preliminary equipment layout and arrangement for switchyard and generator step-up transformers (GSU).

5. Reactive Power Capacity curve of generators.

6. Station auxiliary load.

7. Station auxiliary transformer data - impedance, connection winding, load loss and no load tap changer.

8. GSU impedance, load loss, no load taps changer, connection and winding.

9. Generator reactances

    a. Saturated and unsaturated;
    b. Synchronous, transient, sub transient, and rotor mutual;
    c. Direct axis and quadrature axis.

10. Stator leakage reactances.

11. Generator Short Circuit Ratio.

12. Generator kilowatt rating.

13. Generator kilovar rating.

14. Explanation of the excitation system and the **IEEE** Excitation System Model including time constants, gains, limits, block diagrams, exciter saturation curves and configuration.

15. Additional data necessary for initial transient stability study. At a minimum:

a. H - Inertia constants of turbo generators shaft (MW-second/MVA).

b. $R_a$ - Stator resistances of generators.

c. Generators time constants:

   i. Open circuit and short circuit;
   ii. Transient and sub transient;
   iii. Direct axis and quadrature axis.

d. Generator saturation curves.

e. Explanation of the mechanical system. IEEE Turbines Governor (mechanical system) Model covering speed governing, turbine time constants, gains, limits, block diagrams, damping coefficient, droop, dead band, and configuration.

f. Over speed protection system - purpose, model, description, setting, data, and curves (as fast valving).

g. Any other control system model (as compensator, stabilizer and excitation limiter models), including the time constants, gains, limits, description, block diagrams and configuration.

16. Seller's requirements for power supplied by PREPA during construction and start-up.

17. Project schedule (I-J or bar chart format) including but not limited to the following milestones:

    OF status obtained
    Engineering 30% complete
    One-line diagram approved
    Financial Closing Date
    Major licenses/permits
    Major material procurement
    Start Construction
    Engineering 70% complete
    Utility technical submittals complete
    Operating procedures finalized
    Start test and start-up
    Initial synchronizing date
    Commercial operation

18. PSSE Mathematical Model (Parameters and Data Requirements)

The Contractor shall submit to PREPA the PSSE mathematical model with the following information and data related to the proposed units. The data shall be submitted initially in a preliminary or estimated form. The data shall be updated and officially certified according to PREPA requirements when final field adjustments and machine parameters measurements and field tests are performed to the units by the contractor:

1. Turbo-Generators data, including but not limited to the following:

a. MVA Base and Voltage Base
b. MVA, MW and MVAR Ratings
c. Voltage Ratings
d. Inertia Constant of Turbo Generators
e. Moment of Inertia
f. Speed (rpm)
g. Ra - Stator Resistances
h. Generator Saturation Curves
i. Reactive Power Capacity Curves
j. Generator Short Circuit Ratio
k. Generator Reactances
1) Saturated and Unsaturated
2) Synchronous, Transient, Subtransient and Rotor Mutual
3) Direct Axis and Quadrature Axis
4) Positive, Negative and Zero Sequence
l. Generator Time Constants
1) Open Circuit and Short Circuit
2) Transient and Subtransient
3) Direct Axis and Quadrature Axis
m. Stator Leakage Reactances
n. Over Speed Protection System purpose, model, description setting, data, and curves.

2. Excitation System Data, Excitation System Dynamic Mathematical Model and Detailed Explanation

a. IEEE Excitation System Model, including but not limited to the time constants, gains, limits, block diagrams, exciter saturation curves and configuration.

b. The dynamic mathematical model of the excitation system shall be fully compliant with the latest and future versions of PSS/E dynamic simulations platform.

c. Any other control system model (as compensator, stabilizer and excitation limiter models), including but not limited to the time constants, gains, limits, description, block diagrams and configuration.

3. Turbine Speed Control and Mechanical System Data, Turbine Speed Control and Mechanical System Dynamic Mathematical Model and Detailed Explanation

a) Turbine System Model - IEEE Turbine Speed Control and Mechanical System Model, including but not limited to the speed governing, turbine time constants, gains, limits, damping coefficient, droop, dead band, block diagrams and configuration.

b) The dynamic mathematical model of the turbines system shall be fully compliant with the latest and future versions of PSS/E dynamic simulations platform.

4. Manufacturer standard assumption values, or field settable ranges, for all gains, time constants, and limits appearing in the excitation and mechanical systems block diagrams, and in any other control system.

5. Generators step up (GSU) transformers data (manufacturer test report), inclUding but not limited to the impedance, connection, winding, MVA ratings, voltage ratings, load loss (kW) and no load tap changer.

6. Turbo-generators protective relays - purpose, description, data, and setting (as loss of field, negative-sequence, ground over current and directional relays).

7. Station auxiliary load (MWand MVAR).

8. Station auxiliary and start-up transformers data (if required), including but not limited to the impedance, connection winding, MVA ratings, voltage rating, load loss (kW) and no load tap changer.

Appendix G:

## Minimum Technical Requirements for Wind Turbine Generation (WTGI. PrOlects

1. Voltage Ride-Through:

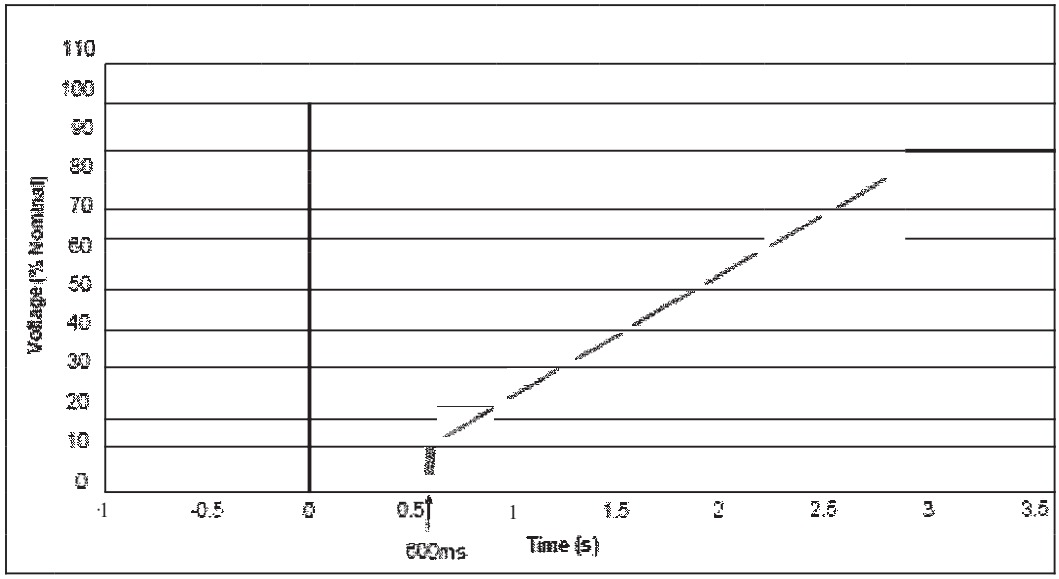



Figure 1 low Voltage Ride-Through Requirements

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

b. PREPA's Overvoltage Ride-Through (OVRT) Requirements:
   i. PREPA requires all generation to remain online and able to ride-through overvoltage conditions specified by the follOWing values:

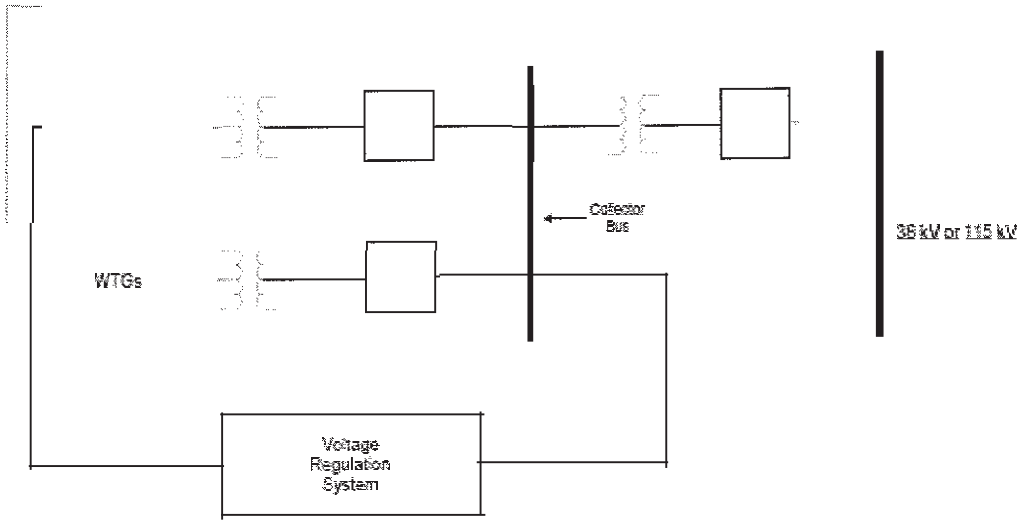
| Overvoltage (pu) | Minimum time to remain online (seconds) |
|---|---|
| 1.4 – 1.25 | 1 |
| 1.25 -1.15 | 3 |
| 1.15 or lower | indefinitely |

2. Voltage Regulation and Reactive Power Compensation

Constant voltage control shall be required. Wind Generation Turbines (WTG) technologies in combination with Static Var Controls, such as Static Var Compensators (SVC), STATCOMs, DSTATCOMs are acceptable options to comply with this requirement.

Examples of possible Voltage Regulation configurations:

The following examples serve as possible solutions for REF voltage regulation and reactive power compensation.




WIND POWER FACILITY

Figure 2 Voltage Regulation at WTG

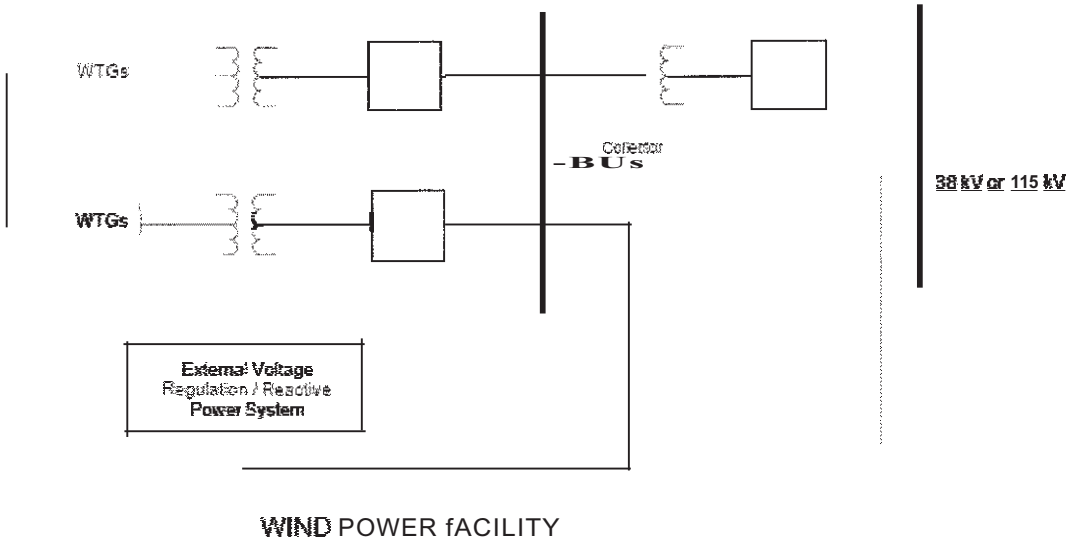



Figure 3 Voltage Regulation at single collector bus

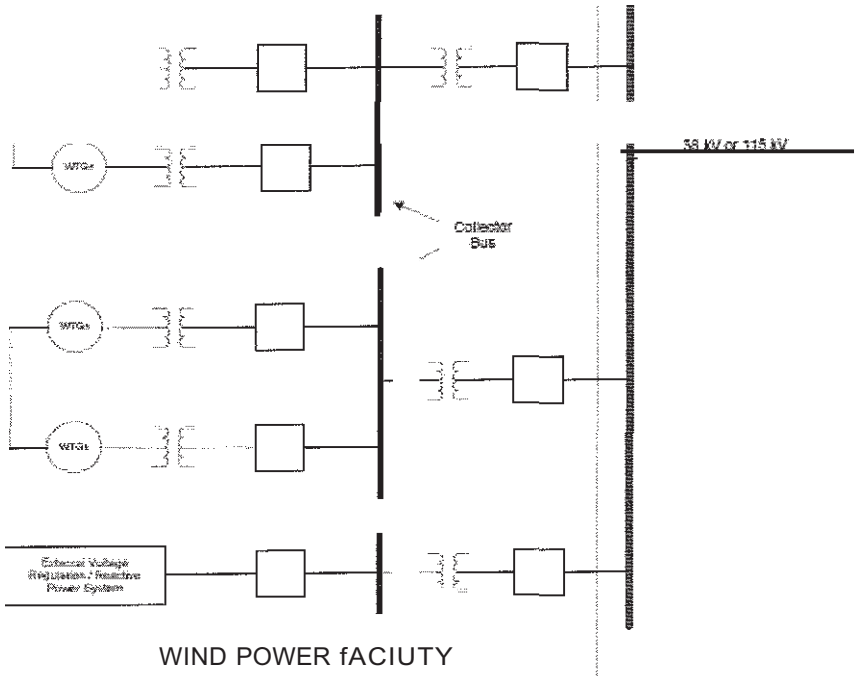



**Figure 4 Voltage regulation on a multiple collector bus injection at collector bus**

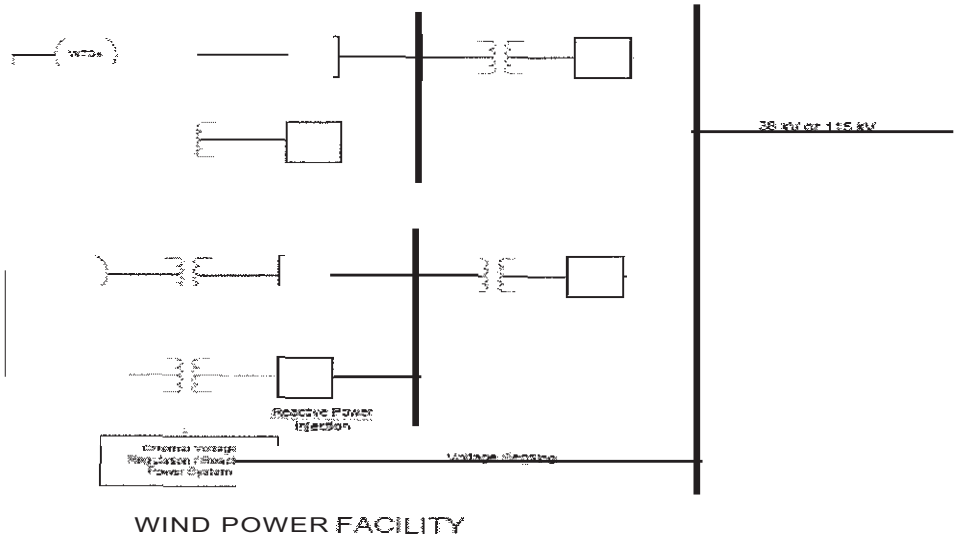



Figure S Shared Voltage Regulation for multiple WPF at transmission system bus

3. Minimum Power Factor Requirements

The total power factor range shall be from 0.85 lagging to 0.85 leading. The reactive power requirements provide flexibility for many types of technologies at the Renewable Energy Facility. The intent is that a REF can ramp the reactive power from 0.85 lagging to 0.85 leading in a smooth continuous fashion.

4. 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

5. Frequency Response:
WTG 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 droop characteristic of 5% used by conventional generators. Wind turbine technologies, in combination with energy storage systems such as BESS, flywheels, hybrid systems are acceptable options to comply with PREPA's frequency regulation requirements.

6. Ramp Rate Control:
   Ramp Rate Control is required to smoothly transition from one output level to another.

7. Power Quality
   The developer shall address, in the design of their facilities 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, ANSI C84.1, IEC 61400-21, IEC 61000-3-7 and IEC 61000-3-6. Typical forms of power quality degradation include, but are not limited to voltage regulation/unbalance, harmonic distortion, fiicker, voltage sags/interruptions and transients.

   The developer shall submit the Power Quality Tests Result Report of the wind turbines as described in the IEC 61400-21 standard. This report includes: general wind turbine data, wind turbine rated data at terminals, voltage fluctuations coefficients (flicker coefficients), current harmonics components, current interharmonics components, current high frequency components, response to voltage drops, active power data, reactive power data, grid protection data and reconnection time. The wind turbines shall not exceed the flicker emission limits established by the IEC 61000-3-7 standard and the harmonics emission limits of IEC 61000-3-6.

8. Wind Power Management:
   WTG facility shall provide adequate technology (communicating technology and the corresponding control equipment) and implement wind power management requirements (ramp rate limits, output limits, curtailment) as established by PREPA.

9. Special Protection Schemes:
   WTG facility shall provide adequate technology and implement special protection schemes as established by PREPA in coordination with wind power management requirements.

10. Wind Generation Forecasting Systems:
    WTG facility shall provide adequate technology to support wind generation forecasting systems (short term and day-ahead). Individual turbine's availability shall be included.

11. General Interconnection Substation Configuration: An interconnecting WTG facility must interconnect at an existing PREPA switchyard. 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. Under special circumstances, the WTG facility might

be interconnected to a new switchyard. The bus configuration and insulation technology of this new switchyard shall be established by PREPA.

**12.** Modeling and Validation

The Contractor shall submit to PREPA the PSS/E mathematical model with the following information and data related to the proposed units. The models shall be fully compatible with the latest and future versions of PSS/E. The data shall be submitted initially in a preliminary or estimated form. It is preferred that the models are standard models provided with PSS/E. In the case that the developer submits user written models, the developer shall be required to keep these models current with the futures versions of the PSS/E program until such time that PSS/E has implemented a standard model.

The data and PSS/E model shall be updated and officially certified according to PREPA requirements when final field adjustments and machine parameters measurements and field tests are performed to the units by the contractor:

(i.) Turbo-Generators data, including but not limited to the following:

a) MVA Base and Voltage Base
b) MVA, MW and MVAR Ratings
c) Voltage Ratings
d) Inertia Constant of Turbo Generators
e) Moment of Inertia
f) Speed (rpm)
g) Ra - Stator Resistances
h) Generator Saturation Curves
i) Reactive Power Capacity Curves
j} Generator Short Circuit Ratio
k) Generator Reactance
   - Saturated and Unsaturated
   - Synchronous, Transient, Subtransient and Rotor Mutual
   - Direct Axis and Quadrature Axis
   - Positive, Negative and Zero Sequence
l) Generator Time Constants
   - Open Circuit and Short Circuit
   - Transient and Subtransient
   - Direct Axis and Quadrature Axis
m) Stator Leakage Reactances
n) Over Speed Protection System - purpose, model, description, settings, data, and curves.

(iL) Excitation System Data, Excitation System Dynamic Mathematical Model and Detailed Explanation

a. **IEEE** Excitation System Model, including but not limited to the time constants, gains, limits, block diagrams, exciter saturation curves and configuration.

b. The dynamic mathematical model of the excitation system shall be fully compiiant with the latest and future versions of PSS/E dynamic simulations platform.

c. Any other control system model (as compensator, stabilizer and excitation limiter models), including but not limited to the time constants, gains, limits, description, block diagrams and configuration.

(iiL) Turbine Speed Control and Mechanical System Data, Turbine Speed Control and Mechanical System Dynamic Mathematical Model and Detailed Explanation

a) Turbine System Model - **IEEE** Turbine Speed Control and Mechanical System Model, including but not limited to the speed governing, turbine time constants, gains, limits, damping coefficient, droop, dead band, block diagrams and configuration.

b) The dynamic mathematical model of the turbines system shall be fully compliant with the latest and future versions of PSS/E dynamic simulations platform.

(iv.) Dynamic Active and Reactive Power Compensation Devices-

The Contractor shall be responsible to submit PSSE mathematical models of any kind of compensation devices (ie. SVC, STATCOMs, DSTATCOMs, BESS, etc.) used on the REF. The data shall be submitted initially in a preliminary or estimated form. It is preferred that the models are standard models provided with PSS/E. In the case that the developer submits user written models, the REF developer shall be required to 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 PSSE. Final adjustments and parameters settings related with the control system commissioning process shall be incorporated to the PSSE mathematical model and tested accordingly by the REF developer and PREPA system study groups.

(v.) Validation and Testing-

The Contractor shall perform on-site machine parameters measurements and field tests for the identification, development and validation of the dynamic mathematical models and parameters required by PREPA for the generator, excitation system, turbine speed control, mechanical systems and dynamic active and reactive power compensation devices used at the REF project.

**13.** Dynamic System Monitoring **Equipment**

The developer of the Renewable Energy Facility shall be required to provide and install a dynamic system monitoring equipment that conforms to PREPA's specifications.