

**Columbia Power and Water Systems (CPWS)
Interconnection and Parallel Operation Agreement
for Renewable Generation Operating Under
Green Power Providers Program**

**This document is for review only
by a potential Green Power
Provider Owner, Participant
and/or Installer. CPWS
Interconnect Agreement will be
supplied by CPWS to the
aforementioned parties for
installation within our service
area upon approval of system
design as outlined in CPWS
Overview Statement of TVA's
GPP program.**

Columbia Power and Water Systems (CPWS) Interconnection and Parallel Operation Agreement for Renewable Generation Operating Under Green Power Providers Program

This Interconnection Agreement (“Agreement”) is made and entered into this _____ day of _____, 20____, by **Columbia Power and Water Systems**, (“Distributor”), a municipal corporation duly created, organized and existing under and by virtue of the laws of the State of Tennessee, and _____ who has executed a Participation Agreement under the TVA Green Power Providers Program and is hereinafter referred to as Participant, and

WHEREAS, the Participant has requested interconnection services to sell the output of renewable generation that is owned by the Participant or a third party (see attached Application For Interconnection) at the Participant’s presently metered location, which is _____

Now, therefore, for and in consideration of the mutual covenants and agreements set forth herein, the Parties agree as follows:

1. Scope of Agreement

- 1.1. This Agreement is applicable to conditions under which the Distributor and the Participant agree that one or more generating systems and all related interconnection equipment (described in the Application for Interconnection of Distributed Generation and attached to this agreement and hereinafter referred to as “Qualifying System”) located at Participant’s presently metered location with gross power rating of _____ kW and to be interconnected at _____ kV may be interconnected to the Distributor’s electric power distribution system (“System”). Execution of this agreement allows the Participant to proceed with procurement and installation of the system but Participant is not allowed to proceed with parallel operation until Distributor has received a completed Certificate of Completion, Distributor has conducted an onsite inspection and witnessed any required commissioning test or waived such test, and has given Participant written authorization to proceed with parallel operation.

2. Establishment of Point of Interconnection

- 2.1. The point where the electric energy first leaves the wires or facilities owned by the Distributor and enters the wires or facilities provided by Participant is the "Point of Interconnection." Distributor and Participant agree to interconnect the Qualifying System at the Point of Interconnection in accordance with the Distributor's rules and regulations, policies, by-laws, and rates (the "Rules") which are incorporated herein by reference, and the generator and all related interconnection equipment will comply with the CPWS's requirements.

3. General Responsibilities of the Parties

- 3.1. Distributor has reviewed the proposed generation and related equipment as described in the Application for compliance with Distributor's Interconnection Procedures and approved the Qualifying System for interconnection based on one of the following conditions:
 - 3.1.1. Qualifying System has been certified as meeting the applicable codes and standards and has passed the Fast Track Screening Process including its site specific impact studies, or
 - 3.1.2. Distributor in agreement with Participant has conducted additional engineering evaluations or detailed impact studies and any necessary System upgrades or changes identified by these additional studies have been implemented and Participant has paid for such changes where necessary.
- 3.2. Participant shall comply with all applicable laws, regulations, zoning codes, building codes, safety rules and environmental restrictions, including the latest version of the National Electrical Code applicable to the design, installation, operation and maintenance of its Qualifying System.
- 3.3. The Participant shall provide Local Building Code Official inspection and certification of installation forms to the Distributor. The certification shall reflect that the code official has inspected and certified that the installation was permitted, has been approved, and has met all mechanical qualifications. Electrical permitting shall be purchased at the office of the Distributor. Deputy Electrical Inspector for Tennessee for Distributor's service area shall inspect and approve the installation insuring it meets all electrical qualifications prior to a witness test required before beginning parallel operation.
- 3.4. After installation, the Participant shall return the Certificate of Completion to the Distributor. Prior to parallel operation, the Distributor shall inspect the Qualifying System for compliance with standards which may include a witness test. Distributor must provide written authorization before Participant can begin parallel operation.
- 3.5. Participant shall conduct operations of its Qualifying System in compliance with all aspects of the Rules and in accordance with industry standard prudent engineering practice, and must comply with the latest version of IEEE 519.
- 3.6. The Participant shall be responsible for protecting its renewable generation equipment, inverters, protective devices, and other system components from damage from the normal and abnormal conditions and operations that occur on the System in delivering and restoring power; and shall be responsible for ensuring that the Qualifying System is inspected, maintained, and tested on an ongoing basis in accordance with the manufacturer's instructions to ensure that it is operating correctly and safely. Distributor will have the right to request and receive copies of the test results.

4. Inspection and Ongoing Compliance

- 4.1. Distributor will provide Participant with as much notice as reasonably practicable, either in writing, email, facsimile or by phone, as to when Distributor may conduct inspection and/or document review. Upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Distributor shall have access to the Participant's premises for the purpose of accessing the manual disconnect switch, performing an inspection or disconnection, or, if necessary, to meet Distributor's legal obligation to provide service to its customers.

5. Manual Disconnect Switch and Inverters

- 5.1. Participant must install a manual, lockable, visible load break disconnect switch between the generation source and the Distributor's system that is visibly marked "Participant Generation Disconnect." The disconnect shall be mounted separate from, but adjacent to the Distributor's meter socket, both billing and generation meters. The Participant shall ensure that such manual disconnect switch shall remain readily accessible to Distributor and be capable of being locked in the open position with a single Distributor utility padlock. A permanent, weatherproof single line diagram of the facility must be located adjacent to the disconnect switch. Names and current telephone numbers of at least two persons authorized to provide access to the facility that have authority to make decisions regarding the interconnection and operation of the Qualifying System will be included.

- 5.2. Inverters shall comply with the following standards:

5.2.1.	IEEE1547 Standard for Interconnecting Distributed Resources With Electric Power Systems (including use of IEEE 1547.2 testing protocols to establish conformity)
5.2.2.	IEEE1547.2 Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources With Electric Power Systems
5.2.3.	UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems.
5.2.4.	In addition to the above standards and contrary to Section 4 paragraph C.v of the GPP Participation Agreement, inverters shall match the phasing of the grid supplied power for the renewable generation location. Single phase inverters shall be used on single phase services and three phase inverters shall be used on three phase services. Single phase inverters shall not be utilized on three phase service installations.
5.2.5.	Inverter(s) along with associated DC disconnect(s) shall be located adjacent to generation meter and AC generation disconnect. Any wavier to this requirement must be approved by CPWS prior to installation.

6. Disconnection/Reconnection

- 6.1. Distributor may open the manual disconnect switch or disconnect the Participant's meter, pursuant to the conditions set forth in Section 6.2 below, isolating the Qualifying System, without prior notice to the Participant. To the extent practicable, however, prior notice shall be given. If prior notice is not given, Distributor shall at the time of disconnection leave a door hanger notifying the Participant that its Participant-owned renewable generation has been disconnected, including an explanation of the condition necessitating such action. As soon as practicable after the condition(s) necessitating disconnection has(have) been remedied, Distributor will unlock the disconnect switch so Participant may reenergize the Qualifying System.
- 6.2. Distributor has the right to disconnect the Participant-owned renewable generation at any time. Some examples of situations that may require disconnect are:
 - 6.2.1. Emergencies or maintenance requirements on Distributor's system;
 - 6.2.2. Hazardous conditions existing on Distributor's system due to the operation of the Participant's generating or protective equipment as determined by Distributor; and
 - 6.2.3. Adverse electrical effects, such as power quality problems, on the electrical equipment of Distributor's other electric consumers caused by the Participant-owned renewable generation as determined by Distributor.

7. Modifications/Additions to Participant-owned Renewable Generation

- 7.1. If the Qualifying System is subsequently modified in order to increase or decrease its Gross power rating or any components are changed, the Participant must provide Distributor with written notification that fully describes the proposed modifications at least thirty (30) calendar days prior to making the modifications.

8. Indemnity

- 8.1. Participant agrees to release, indemnify, and save harmless Distributor, TVA, the United States of America, and their respective agents and employees from all liability, claims, demands, causes of action, costs, or losses for personal injuries, property damage, or loss of life or property, sustained by Participant, Participant's agents and family, or third parties arising out of or in any way connected with the installation, testing, operation, maintenance, repair, replacement, removal, defect, or failure of Participant's Qualifying System. The obligations of this section 8.1 shall survive termination of this agreement.

9. Assignment

- 9.1. The Interconnection Agreement shall not be assignable by either party without thirty (30) calendar days notice to the other Party and written consent of the other Party, which consent shall not be unreasonably withheld or delayed.
- 9.2. An assignee to this Interconnection Agreement shall be required to assume in writing the Participant's rights, responsibilities, and obligations under this Interconnection Agreement.

10. Insurance

- 10.1. Distributor requires the following levels of Liability Insurance for Personal Injury and Property damage during the entire term of this Interconnection Agreement. Insurance levels stated below are minimum requirements and may be adjusted should site, installation or other conditions warrant.
- 10.2. Generation up to 10 kW – Participant maintains an amount of not less than **\$50,000.**
- 10.3. Generation greater than 10 kW but equal or less than 50 kW – Participant maintains an amount of not less than **\$100,000.**
- 10.4 CPWS must be named as Additional Insured on all policies of insurance required. The policies of insurance shall be in such form and issued by such insurer as shall be satisfactory to the Distributor. The Participant shall furnish the Distributor a certificate evidencing compliance with the foregoing requirements which shall provide not less than (30) days prior written notice to the Distributor of any cancellation or material change in the insurance. Annual renewal of insurance coverage shall be submitted to CPWS in January of each year for the duration of this Agreement.

11. Effective Term and Termination Rights

- 11.1. This Agreement becomes effective when executed by both Parties and shall continue in effect as long as the Green Power Providers Participation Agreement between Distributor and Participant is in effect. This Agreement will be terminated immediately upon the termination of the Green Power Providers Participation Agreement.

12. Entirety of Agreement and Prior Agreements Superseded

- 12.1. This Agreement, including the Rules, the Green Power Providers Participation Agreement executed by Distributor and Participant, and all attached Exhibits expressly made a part hereof for all purposes, constitutes the entire agreement and understanding between the Parties with regard to the interconnection of the Qualifying System of the Parties at the Point of Interconnection expressly provided for in this Agreement. The Parties are not bound by or liable for any statement, representation, promise, inducement, understanding, or undertaking of any kind or nature (whether written or oral) with regard to the subject matter hereof not set forth or provided for herein, in the Participant's Application for Interconnection of Distributed Generation, Certificate of Completion, the Green Power Providers Participation Agreement or other written information provided by the Participant in compliance with the Rules.

13. Notices

13.1. Notices given under this Agreement are deemed to have been duly delivered if hand delivered or sent by United States certified mail, return receipt requested, postage prepaid, to:

(a) If to Distributor:

Columbia Power and Water Systems

P.O. Box 379, Columbia, TN 38402-0379

(b) If to Participant:

The above-listed names, titles, and addresses of either Party may be changed by written notification to the other.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be signed by their respective duly authorized representatives.

Columbia Power and Water Systems

[PARTICIPANT NAME]

BY: _____

BY: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____