

KNOXVILLE UTILITIES BOARD

INTERCONNECTION, METERING, AND PARALLEL OPERATION AGREEMENT FOR RENEWABLE ENERGY SYSTEMS WITH GROSS OUTPUT NO GREATER THAN 1,000 KW

This Interconnection, Metering and Parallel Operation Agreement (“Agreement”) is made and entered into this _____ day of _____, 20____, by Knoxville Utilities Board, a Board created and existing under and by virtue of the Charter of the City of Knoxville, Tennessee, acting for and on behalf of said City which is a municipal corporation created and existing under and by virtue of the laws of the State of Tennessee, hereinafter referred to as “KUB”, and _____ who is hereinafter referred to as “Participant”. KUB and Participant may be collectively referred to as “Parties” or individually as a “Party.”

WHEREAS, the Participant has requested interconnection services from KUB in order to self-generate and/or sell the output of renewable generation that is owned by the Participant or a third party (see attached Application for Interconnection of Distributed Generation, hereafter called “Application”) 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. KUB and the Participant agree that one or more generating systems and all related interconnection equipment (described in the attached Application 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 KUB’s electric power distribution system (“System”) in accordance with the terms and conditions of this AGREEMENT. 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 KUB has received a completed Certificate of Completion, KUB has conducted an onsite review and witnessed any required commissioning test or waived such test, and has given Participant written authorization to proceed with parallel operation.

2. Established Point of Delivery

- 2.1. The point where the electric energy first leaves the wires or facilities owned by KUB and enters the wires or facilities provided by Participant; or the electricity first leaves the wires of facilities provided by Participant and enters the wires or facilities owned by KUB; is the “Point of Interconnection.” KUB and Participant agree to interconnect the Qualifying System at the Point of Delivery in accordance with the KUB’s rules, regulations, bylaws, and rates (the “Rules”),

which are incorporated herein by reference, and the Participant and the Qualifying System shall comply with the Knoxville Utilities Board Interconnection Procedures For Renewable Distributed Generation.

3. General Responsibilities of the Parties

- 3.1.** KUB has reviewed the proposed Qualifying System as described in the attached Application for compliance with the Knoxville Utilities Board Interconnection Procedures For Renewable Distributed Generation and approved the Qualifying System for interconnection based on one of the following conditions:
 - 3.1.1.** The Qualifying System has been reviewed by KUB based on the applicable codes and standards and has passed any applicable screening process in the Knoxville Utilities Board Interconnection Procedures For Renewable Distributed Generation, or
 - 3.1.2.** KUB in agreement with Participant has conducted additional engineering evaluations or detailed impact studies at Participant's expense, and any necessary System upgrades or changes identified by these additional studies have been implemented and Participant has paid for such upgrades or 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 Safety Code, the National Electric Code, and codes issued by Underwriters Laboratories ("UL"), the Institute of Electrical and Electronics Engineers ("IEEE"), and the American National Standards Institute ("ANSI") that are applicable to the design, installation, operation, and maintenance of its Qualifying System.
- 3.3.** KUB shall, at Participant's expense, provide and install such meters and related facilities ("Metering Installation") as in KUB's judgment are needed to measure the electrical output from the Qualifying System. Thereafter, KUB shall, at Participant's expense, test, calibrate, operate, maintain, and, if necessary, replace the meter(s) in the Metering Installation. The Metering Installation shall conform to applicable industry standards and shall be for KUB's exclusive use and control unless otherwise agreed by the Parties. If the Participant is selling the power output of the Qualifying System to a third party, the Participant shall notify KUB of any metering requirements of the power purchaser, any costs of which shall be borne by the Participant.
- 3.4.** The Participant shall provide the local building code official inspection and certification of installation forms to KUB. The certification shall reflect that the code official has inspected and certified that the installation was permitted, has been approved, and has met all electrical, mechanical, and zoning qualifications.
- 3.5.** After installation of the Qualifying System, the Participant shall return the Certificate of Completion to KUB. Prior to parallel operation, KUB may, at Participant's expense, inspect the Qualifying System for compliance with standards which may include testing the Qualifying System in the presence of a witness selected by KUB. Participant shall not begin parallel operation before KUB provides written authorization.
- 3.6.** Participant shall operate 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, UL 1741, IEEE 1547, and any other applicable codes and standards of ANSI, IEEE, and UL.
- 3.7.** The Participant shall be responsible for protecting its renewable generation equipment, inverters, protective devices, and other Qualifying System components from damage from the normal and abnormal conditions and operations that occur on KUB's System in delivering and restoring

power; and Participant 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. KUB has the right to request and receive copies of the test results.

4. Inspection and Ongoing Compliance

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

5. Manual Disconnect Switch

- 5.1. Participant must install a manual, lockable, visible load break disconnect switch between the Qualifying System and KUB's System that is visibly marked "**Participant Generation Disconnect.**" The disconnect shall be mounted separate from but adjacent to KUB's meter socket. The Participant shall ensure that such manual disconnect switch shall remain readily accessible to KUB and be capable of being locked in the open position with a single KUB 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 shall be included with the diagram.

6. Disconnection/Reconnection

- 6.1. KUB 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, KUB shall at the time of disconnection leave a door hanger notifying the Participant that its Qualifying System has been disconnected, including an explanation of the conditions necessitating such action. As soon as practicable after the conditions necessitating disconnection have been remedied, KUB shall unlock the disconnect switch so Participant may reenergize the Qualifying System, but, without regard to whether KUB has locked the disconnect switch, the Participant shall not reenergize the Qualifying System without the prior approval of KUB.
- 6.2. KUB has the right to disconnect the Qualifying System at any time. Some examples of situations that may require disconnect are:
 - 6.2.1. Emergencies or maintenance requirements on KUB's System;
 - 6.2.2. Hazardous conditions existing on KUB's System due to the operation of the Participant's Qualifying System, including without limitation protective equipment, as determined by KUB; and
 - 6.2.3. Adverse electrical effects, such as power quality problems, on the electrical equipment of KUB's other electric consumers caused by the Qualifying System as determined by KUB.
 - 6.2.4. Failure to pay KUB for costs associated with the Qualifying System as described in Section 16.

- 6.3.** The Participant is responsible for the protection of the Qualifying System by providing the local protection scheme necessary to isolate the Qualifying System from KUB's System for system line interruptions and when the distribution power source is lost. Accordingly, the Participant must provide and install, at its expense, any necessary protection and control devices for the Qualifying System so that the Qualifying System detects an islanding condition (a condition in which a generator continues to provide power to a location even though power from the electric grid is no longer present) and trips or disconnects the Qualifying System from KUB in less than 10 cycles (less than 0.1667 seconds).

7. Modifications/Additions to Participant-owned Generation

- 7.1.** If the Qualifying System is to be modified in order to increase or decrease its gross power rating or any components are changed, the Participant must provide KUB with written notification that fully describes the proposed modifications at least sixty (60) calendar days prior to making such modifications. KUB has the right to accept or deny the request of the proposed modifications. KUB shall review such modifications to determine if KUB needs to modify its interconnection facilities, any cost incurred in the review or system modification shall be borne by the Participant. Participant may, at its own risk, proceed with procurement and installation of such modifications, but Participant is not allowed to proceed with parallel operation until KUB has conducted an onsite inspection and witnessed any required commissioning test or waived such test, and KUB has given Participant written authorization to proceed with parallel operation.

8. Indemnity

- 8.1.** Participant agrees to release, indemnify, and save harmless KUB, and their respective agents, contractors, 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. Nothing in this AGREEMENT shall serve to limit the participant's obligations under this section 8.1, Indemnity.

9. Assignment

- 9.1.** Participant shall not assign this AGREEMENT without thirty (30) calendar days prior written notice to KUB and without KUB's written consent, which consent shall not be unreasonably withheld or delayed.
- 9.2.** An assignee to this AGREEMENT shall demonstrate to KUB's satisfaction that the assignee has the necessary financial and technical resources to comply with the terms of this AGREEMENT. The assignee shall be required to assume in writing all of the Participant's rights, responsibilities, and obligations under this AGREEMENT.

10. Insurance

- 10.1.** KUB requires the following levels of Liability Insurance for Personal Injury and Property damage during the entire term of this AGREEMENT.
- 10.2.** For Participants with generation capacity equal to or greater than Thirty (30) kilowatts, insurance requirements are attached to this AGREEMENT as Addendum 1.
- 10.3.** For Participants with generation capacity of less than Thirty (30) kilowatts, KUB requires the following levels of liability insurance as described in 10.1 above:

10.3.1. If Participant's system is located at a residence and connected behind the residential meter or affiliated with a residential meter under TVA's Green Power Providers Program, Participant shall maintain personal liability insurance through insurance carriers that are licensed to do business in the state of Tennessee with limits of liability at that level to sufficiently protect the Participant and those parties indemnified in section 8.1 of this AGREEMENT.

10.3.2. If Participant's system is not located at a residence, Participant shall take out and maintain public liability and property damage liability insurance covering all operations under this AGREEMENT. Limits for bodily injury or death shall be not less than Three Hundred Thousand Dollars (\$300,000) for any one (1) person in any one (1) accident, occurrence or act; not less than Seven Hundred Thousand Dollars (\$700,000) for bodily injury or death of all persons in any one (1) accident, occurrence or act; Two Hundred Fifty Thousand Dollars (\$250,000) for injury and destruction of property of others in any one (1) accident, occurrence or act.

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 Qualifying System is capable of operation and connected to KUB's System, notwithstanding any termination of any TVA Dispersed Power Production Power Purchase Agreement or any other power purchase agreement for some or all of the Qualifying System's output. If KUB incurs any costs as a result of termination of this AGREEMENT, Participant shall reimburse KUB for such costs. The Participant may not start a new parallel operation agreement for a system currently participating in another generation program or TVA program. KUB reserves the right to terminate the agreement if the Participant is non-complaint.

12. Entire AGREEMENT and Prior Agreements Superseded

12.1. This AGREEMENT, including the Rules, 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 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 attached Application, Certificate of Completion, 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 KUB:

Knoxville Utilities Board

P.O. Box 59017

Knoxville, TN 37950

(b) If to Participant:

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

14. Applicable Law

14.1. This AGREEMENT shall be governed pursuant to the laws of Tennessee.

15. Severability

15.1. If one or more of the provisions of this AGREEMENT are found to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions of the Agreement shall not be affected.

16. Billing and Payment

16.1. Participant is responsible for KUB's actual costs, including applicable overheads that KUB incurs due to Participant's interconnection and parallel operation of the Qualifying System. These costs include, without limitation, the cost of system impact studies, inspections, reviews, associated billing charges, meter reading charges, installation of the Metering Installation, operations and maintenance ("O&M") of the Metering Installation and all other additional facilities required to be installed by KUB to interconnect the Qualifying System, and KUB's System reconfiguration, upgrades, and modifications (including any reconfiguration or restoration of KUB's System following termination of this AGREEMENT ("Disconnection Costs")).

16.2. Upon receipt of sufficient information from Participant, KUB shall provide to Participant a good-faith estimate of such interconnection costs, indicating what costs are upfront costs ("Upfront Interconnection Costs") and what costs (if any) are recurring, periodic charges ("Periodic Interconnection Costs"). Notwithstanding the good-faith estimate, however, Participant shall pay KUB for the actual costs described in Section 16.1 above, including any Disconnection Costs.

16.3. At the same time Participant signs this AGREEMENT, Participant shall remit to KUB the full amount equal to such good-faith estimate of the Upfront Interconnection Costs, before KUB begins incurring costs and before Participant interconnects or begins parallel operation of the Qualifying System. If the total actual Upfront Interconnection Costs incurred by KUB exceed the good-faith estimate paid by Participant, KUB shall promptly submit to Participant a written invoice for the excess amount, which amount Participant shall promptly pay. If the total actual Upfront Interconnection Costs incurred by KUB are less than the good-faith estimate paid by Participant, KUB shall promptly refund the difference to Participant. Once KUB has begun incurring any Periodic Interconnection Costs or Disconnection Costs, KUB shall bill Participant for such costs, which costs Participant shall promptly pay. Upon request, KUB shall provide to Participant documentation explaining the basis for such costs.

17. Miscellaneous

17.1. This AGREEMENT may be amended only by a written instrument executed by both Parties.

17.2. This AGREEMENT may be executed in several counterparts, each of which shall be considered as original and all of which shall constitute but one and the same instrument.

17.3. The headings in this AGREEMENT are solely for the convenience of the Parties in locating provisions in this AGREEMENT. The headings themselves are not part of this AGREEMENT and shall not affect the meaning or interpretation of this Agreement.

18. Surplus Generation

18.1. Generation in excess of the customer's instantaneous usage that flows beyond the customer's point of interconnection with KUB and into the KUB distribution system shall be referred to herein as Surplus Generation.

18.2. Surplus Generation is not eligible for purchase by KUB.

18.3. Surplus Generation Agreements:

Customer does not have an agreement to sell surplus generation.

Customer has an agreement to sell surplus generation under:

Agreement Description: _____

With: _____

Effective Date: _____

Term of Contract: _____

Customer must attach copy of the agreement.

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

[KUB]

[PARTICIPANT NAME]

BY: _____

BY: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

ADDENDUM 1

**Insurance Requirements for Participants with Generation Capacity Equal to or Greater Than
30 KW**

If Participant has generation capacity equal to or greater than Thirty (30) kilowatts, Participant shall maintain the following insurance coverage through insurance carriers that are licensed to do business in the state of Tennessee in order to protect the Participant and parties indemnified in section 8.1 of this AGREEMENT. The limits of insurance required are:

Commercial General Liability

Per Occurrence Limit:	\$1,000,000
General Aggregate Limit:	\$2,000,000
Products/Completed Operations Aggregate Limit:	\$2,000,000
Fire Damage Legal Liability Limit:	\$1,000,000
Medical Expense Payments:	\$ 5,000

**Additional Insurance Requirements for Participants with Generation Capacity Equal to or Greater Than
100 KW**

Commercial Umbrella or Excess Liability

Occurrence & Aggregate Limit: \$ 5,000,000_

Provides limits over and above Commercial General Liability required above.