

# ELECTRICAL INTERCONNECTION AND POWER EXCHANGE AGREEMENT

THIS AGREEMENT made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

by and between \_\_\_\_\_, hereinafter referred to as the "Owner"; and the City of Cartersville, a Georgia municipal corporation, hereinafter referred to as the "City".

WHEREAS, the Owner desires to interconnect an eligible distributed generation system to operate in parallel to the City's electric system for production of electric energy intended primarily to offset part or all of the Owner's requirement for electricity; and,

WHEREAS, the City is or will be the electric supplier of the Owner's premises; and,

WHEREAS, the Owner's eligible distributed generation system will be installed at the Owner's premises located at \_\_\_\_\_; and,

WHEREAS, the Owner's eligible distributed generation system is defined by the State of Georgia as a "Renewable Energy Source" such that energy supplied is from a technology approved in the Georgia Green Pricing Accreditation Program; and,

WHEREAS, the Owner understands the City is not obligated to permit interconnection to or purchase power from distributed generation systems with a peak generating capacity exceeding 10 kW per residential installation or 100 kW per nonresidential installation.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, the parties agree as follows:

## 1. Scope and Purpose

This Agreement describes the conditions under which the City and the Owner agree that the distributed generating facility or facilities may be interconnected to and operated in parallel with the City's electric system and power exchange arrangements. Other services the Owner may require from the City are covered under separate agreements.

The following exhibits are incorporated and made a part of this Agreement:

Exhibit A: Owner's "Application for Interconnection of Distributed Generation Facility" describing in detail the Owner's distributed generation facility, hereinafter referred to as the "System".

Exhibit B: City's "Authorization or Non-Authorization" to connect.

Exhibit C: City's "Distributed Generation Energy Rider".

Exhibit D: City's "Notice of Power Exchange Amount".

**2. Term and Termination**

**2.1** The term of this Agreement begins on the date first set forth above (regardless of the date that the Owner is authorized to interconnect the System pursuant to Section 5 below) and continues until December 31 of the same year then continues for ten (10) successive 1-year terms from January 1 to December 31 unless terminated prior by either party pursuant to the provisions of this Agreement.

**2.2** Either party may terminate this Agreement at any time by providing 90 days written notice to the other party. In the event of a sale of the Owner's premises, then this Agreement will terminate upon that sale.

**2.3** The City may terminate this Agreement at any time for violation of this Agreement upon written notice to the Owner.

**2.4** At the time of termination of this Agreement for any reason, the City reserves the right, but not the obligation, to perform lock out procedures to disconnect the Owner's System from the City's electric system.

**3. Summary and Description of Owner's System**

**3.1** The Owner's System is a self-contained electric generation system including direct current disconnect apparatus, if applicable, alternating current disconnect/lockout, over-current protective device, and all related electrical equipment upstream of the over-current protective device, as set forth on Exhibit A. The System begins and continues up-stream towards the distributed generation from the overcurrent protective device on the Owner's premises. However, the meter socket(s) and related electrical connects are part of the System and are the responsibility of the Owner. The meter(s) is (are) City equipment.

**3.2** The type of Distributed Generation equipment is: \_\_\_\_\_.

**3.3** Capacity of the Distributed Generation equipment is: \_\_\_\_\_ kW.

**3.4** The expected annual energy production of the Distributed Generation equipment is: \_\_\_\_\_ kWh.

**3.5** The expected date of initial operation of the Distributed Generation equipment is: \_\_\_\_\_.

**4. Installation and Permitting**

**4.1** The Owner and the System must comply with all applicable National Electric Code (NEC), UL and IEEE requirements, including, but not limited to:

UL 1741-Standard for Static Inverters and Charge Controllers for Use with Photovoltaic Systems.

IEEE Standard 1547 (2003): Standard for Interconnecting Distributed Resources with Electric Power Systems. [NOTE: UL 1741 will soon be incorporated into IEEE 1547].

Other organizations, such as the Canadian Standards Association (CSA), test to UL 1741. If the inverter is tested by an organization other than Underwriters Laboratories, the test data must be submitted to the City.

The Owner at the Owner's expense must: 1) obtain all necessary electrical permits for installation of the System and 2) obtain and maintain any government authorizations or permits required for the operation of the System. The Owner must reimburse the City for any and all losses, damages, claims, penalties, or liability the City incurs as a result of Owner's failure to obtain or to maintain any governmental Authorizations and permits required for construction and operation of the Owner's System.

**4.2** The Owner or its contractor must construct the System as specified in Exhibit A.

**4.3** The Owner must provide a manual, lockable, load-break disconnect switch that provides a "visible air gap" adjacent to the point of connection to the City's electric system to provide a point of electrical separation between the Owner's System and the City's electric system. The City will approve the location of the disconnect switch. The disconnect switch must be easily visible, mounted separately from the metering equipment, readily accessible to the City personnel at all times, permanently labeled "GENERATION DISCONNECT", capable of interrupting the maximum available fault current of System, and capable of being locked in the open position with the City's lock. The City may open the disconnect switch thereby isolating the Owner's System from the City electric system for any reason that the City deems necessary including, but not limited to, maintenance or emergency work, the System adversely affecting other customers of the City, failure of the System to comply with codes/regulations, the System creating hazardous or unsafe conditions, the Owner's failure to pay utility bills when due, and failure to comply with the UL Standards in Section 4.1 above.

The Owner understands the City may accept, but is not obligated to accept, renewable energy credits from the Owner. If Owner anticipates transferring renewable energy credits to the City, the Owner must provide an approved meterbase installed adjacent to the disconnect switch mentioned above suitable for a City meter. City shall own this meter, known as the production meter.

**4.4** The System must meet the following power quality requirements:

**4.4.1. Voltage** – the System must operate within 88 to 110% of nominal voltage. Response to voltages outside this range shall be as follows:

<u>Voltage</u>	<u>Maximum Trip Time</u>
$V < 50\%$	10 cycles
$50\% \leq V < 88\%$	120 cycles
$88\% \leq V \leq 110\%$	normal operation
$110\% < V \leq 120\%$	60 cycles
$V > 120\%$	10 cycles

**4.4.2 Flicker** – The System shall not create objectionable flicker for other City customers. Flicker is considered objectionable when it either causes a modulation of the light level of lamps sufficient to be irritating to humans or causes equipment malfunction.

**4.4.3 Frequency** – The System must have a frequency range of 59.3 to 60.5 Hz. When the interconnected system frequency is outside this range, the System shall trip within 10 cycles.

**4.4.4 Waveform Distortion (Harmonics)** – The System must have low current-distortion levels to ensure that no adverse effects are caused to other equipment connected to the City’s electric system. When the System is serving balanced linear loads, harmonic current injection into the City’s network shall not exceed the following:

Odd harmonics (h):

$h < 11$	$11 \leq h < 17$	$17 \leq h < 23$	$23 \leq h < 35$	$35 \leq h$
4.0%	2.0%	1.5%	0.6%	0.3%

Maximum Total Demand Distortion (TDD) 5.0%

Even harmonics: Even harmonics are to be limited to 25% of the odd harmonics shown above.

**4.4.5 Power Factor** – The System must operate at a power factor  $>0.85$  (leading or lagging) when output is greater than 10% of full load.

**4.4.6 Islanding Protection** – The System must cease to energize the utility line when the inverter is subjected to islanding conditions. The System must immediately, completely, and automatically disconnect from the City’s electric system in the event of a fault on the Owner’s System or loss of source on the City’s electric system. The City, at its own discretion and expense, may conduct periodic testing of anti-islanding. Anti-islanding is a means by which the Owner’s System will cease to generate when it is still connected to the isolated (due to fault clearing or other switching) section of the City’s electric system.

**4.4.7** Isolation Transformer – The City may require a dedicated power transformer between the System and City-owned equipment in order to minimize adverse effects on other City customers.

**4.5** The Owner's over-current protective device (Breaker) at the service panel must be dedicated and must be capable of interrupting the maximum available fault current. The Breaker shall be clearly marked to indicate power source and connection to the City's electric system.

**4.6** The Owner, at the Owner's expense, must pay for any additional equipment required to connect the System to the City's electric system.

## **5. Written Authorization for Connection**

The Owner may not connect the System to the City's electric system until: 1) this Agreement has been fully executed by the parties, 2) the System has been tested, and 3) written authorization to connect the System, in a form substantially similar to Attachment B, has been given to the Owner by the City. The City may have representatives present at the initial testing of the Owner's System and may perform (at its own expense) whatever testing of the Owner's System that the City deems necessary.

After written authorization to connect the System to the City's electric system has been given, the Owner shall make no changes or modifications in the System or of its mode of operation without the prior written approval of the City.

## **6. Warranty**

The City's inspection and approval, if any, of the System is solely for the City's benefit and does not constitute a warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Owner or leased by the Owner from third parties, including without limitation the System and any structures, wires, appliances or devices appurtenant thereto.

## **7. Indemnity and Liability**

**7.1** The Owner releases and agrees to indemnify, defend and hold harmless the City, its agents, officers, employees and volunteers from and against all damages, claims, actions, causes of action, demands, judgments, costs, expenses of every kind and nature, predicated upon injury to or death of any person or loss of or damage to any property, arising, in any manner, from the Owner's activities, actions or omissions under this Agreement.

**7.2** Nothing in this Agreement shall be construed as a waiver by the City of any rights, immunities, privileges, monetary limitations to judgments, and defenses available to the City under law.

## **8. Location of System**

The System will be installed in the physical location specified or depicted in Exhibit A. The Owner cannot relocate and connect the System at another premises or physical location without filing a new interconnection application with the City or requesting modifications to this Agreement allowing for connection at the alternate location. In the event that such approval is given, any relocation and installation of the System will be at the Owner's sole expense.

## **9. Access to Premises**

The Owner will provide the City access to the Owner's premises to (i) inspect the Owner's System, (ii) to read and to replace meters, (iii) to open the load-break disconnect switch, and (iv) to disconnect the interconnection facilities at the City's meter or transformer.

## **10. Maintenance of System**

The Owner, at the Owner's sole cost and expense, will maintain the System including, but not limited to, all over-current protective equipment, in a safe and prudent manner and in conformance with all applicable laws, codes and regulation, including, but not limited to, the requirements of Section 4 above. The Owner must retain all records for such maintenance. These records must be available to the City for inspection at all reasonable times.

## **11. Safety**

The Owner agrees to install, operate and maintain the System in a safe and prudent manner and in conformance with all applicable laws, codes and regulations including, but not limited to, those contained in Section 4 above.

## **12. Power Exchange Rate**

The rate at which electrical energy is purchased by the City from the System is described in the "Distributed Generation Energy Rider", attached as Exhibit C, or successor riders as may be approved by the City.

## **13. Power Exchange Amount**

The maximum amount of electrical energy purchased by the City from the System is described in the "Notice of Power Exchange Amount", attached as Exhibit D, or successor notices as may be provided by the City.

For Systems exceeding peak generating capacity of 10 kW per residential installation or 100 kW per nonresidential installation, City may alter the amount of electricity purchased from System or cease purchasing electricity from System by providing ninety (90) days written notice to Owner in a form substantially similar to Attachment D.

## **14. Power Exchange Obligations of City**

The City agrees to:

- a) Purchase excess electricity generated at the Owner's referenced premises, per the City's notice of power exchange amount.
- b) Install appropriate electrical metering that provides for flow of energy both into (from the City) and out of (to the City) the property, such metering to provide a reading of the energy used or supplied during any billing period.
- c) Install appropriate electrical metering (production meter) that provides for flow of energy from System, such metering to provide a reading of the total energy generated, if Owner elects to transfer Renewable Energy Credits.
- d) Bill or make payment to the Owner for the electrical energy consumed or exchanged, per the City's distributed generation energy rider.
- e) The City reserves the right to separate Owner's equipment from the City's lines and facilities if, in the exclusive opinion of the City, continued parallel operation is unsafe or may cause damage to persons or property. Upon such separation, the City shall promptly notify Owner so that any unsafe condition can be corrected.

#### **15. Power Exchange Obligations of Owner**

The Owner agrees and warrants:

- a) That it has full power and authority to execute and deliver this Agreement and all documents contemplated hereunder, and to assure full performance and compliance.
- b) That the Owner will pay for the electrical power exchanged per the City's distributed generation energy rider set forth in Exhibit C or successor riders as may be approved by the City.
- c) That the Owner shall supply the City with appropriate electrical interconnection plans, which must be designed to protect the safety of the City and the general public, and which must be pre-approved by the City. Included in these plans must be the requirement that the customer-owned interconnection equipment must disconnect from the City's electrical system upon the absence of City utility power.
- d) That the Owner agrees to provide the City access to the metering equipment, and agrees to cooperate with the City for any special, temporary metering intended to monitor energy flows.
- e) That the Owner agrees to pay for any incremental City metering or electrical distribution system costs necessitated by this Agreement.
- f) That the Owner will provide, install, own and maintain such power exchange and interconnection equipment that provides for the safe interconnection to the City's system.
- g) That the Owner's installed generation and interconnection equipment will operate safely at the time of installation and throughout the term of the Agreement.
- h) That the Owner will notify the City of any changes to the Owner's system (size change, generation change, or change in interconnection equipment). Technical information on any changes in Owner's equipment must be provided to the City and pre-approval received from the City prior to Owner connection and operation of such equipment.

## **16. Assignment**

This Agreement may not be assigned by the Owner without the prior written consent of the City, which may be withheld in its sole discretion. In the event of a sale of the Owner's premises, then this Agreement will terminate upon that sale. If the new owner desires to continue receiving Service, the new owner must enter into a new, separate agreement with the City.

## **17. Force Majeure**

Neither party will be liable for delays in performing its obligations to the extent that the delay is caused by an unforeseeable condition beyond its reasonable control without fault or negligence, including but not limited to, riots, wars, floods, fires, explosions, acts of nature, acts of government, or labor disturbances.

## **18. Severability**

If any provision of this Agreement is found to be illegal or unenforceable, then the remaining provisions of this Agreement will remain in full force and effect, and such term or provision will be deemed stricken for as long as it remains illegal or unenforceable.

## **19. Governing Law and Venue**

**17.1** Any tribunal enforcing this Agreement shall apply and construe it according to the laws of the State of Georgia.

**17.2** In the event of any dispute over the Agreement's terms and conditions, the exclusive venue and jurisdiction for any litigation, arising there under will be in the Superior Court of Bartow County, Georgia, and, if necessary for exclusive federal questions, the United States District Court for the Northern District of Georgia. The Owner waives any objection to jurisdiction or venue of any action instituted pursuant to this section and may not assert any defense in any such action based on lack of jurisdiction or venue or based upon Forum Non Conveniens. The Owner waives any bond or surety or security upon such bond or surety which, but for this waiver, might be required by the City.

## **20. Survival**

The provisions of this Agreement with respect to indemnification and liability will survive the termination of this Agreement.

## **21. Notices and Other Communications**

Except as otherwise provided in this Agreement or as may be specified by the parties in writing, any notice or other communication required under this Agreement must be in writing and must be sent by registered or certified United States mail, or by messenger, or by facsimile, or by other electronic means. Any such notice or other communication must be addressed as follows and, if so addressed, will be effective upon actual receipt.



**If to Owner:**            Company: \_\_\_\_\_  
                                  Contact: \_\_\_\_\_  
                                  Title: \_\_\_\_\_  
                                  Address: \_\_\_\_\_  
                                  \_\_\_\_\_  
                                  Phone: \_\_\_\_\_  
                                  Fax: \_\_\_\_\_

**If to City:**            CITY OF CARTERSVILLE  
                                  ATTN: ELECTRIC DIRECTOR  
                                  P.O. BOX 1390 (if regular mail)  
                                  320 S. ERWIN ST. (if overnight mail)  
                                  CARTERSVILLE, GA 30120  
                                  Phone: 770-387-5631  
                                  Fax: 770-387-5630

**22. Entire Agreement**

This Agreement, together with its attachments, constitutes the entire agreement between the parties and supersedes all previous written or oral communications, understandings and agreements between the parties unless specifically stated otherwise within this Agreement. This Agreement may only be amended by a written agreement signed by both parties. Email and all other electronic (including voice) communications from the City in connection with this Agreement are for informational purposes only. No such communications is intended by the City to constitute either an electronic record or an electronic signature or to constitute any agreement by the City to conduct a transaction by electronic means. Any such intention or agreement is expressly disclaimed.

**23. Acknowledgements Regarding Agreement**

By signing below, the Owner acknowledges understanding of the terms of this Agreement and that the Owner may not connect the System to the City's electric system until the Owner has received written authorization to connect from the City. Within 30 days after notice from the Owner that the System is ready for interconnection to the City's electric system, the City will inspect the System and will provide a written authorization to connect the System or a statement that the System may not be connected because of non-compliance with this Agreement.

**24. Compliance with Ordinances and Regulations**

The Owner shall perform all obligations under this Agreement in strict compliance with all applicable federal, state, and City laws, rules, statutes, charter provisions, ordinances and regulations.

**25. Beneficiaries**

This Agreement is for the sole benefit of and binds the parties, their successors and assigns. This Agreement affords no claim, benefit or right of action to any third party. Any party besides the City or the Owner receiving services or benefits under this Agreement is only an incidental beneficiary.

**26. Status of Owner**

The Owner shall perform all operations under this Agreement as an independent Contractor, and not as an agent or employee of the City. No the City official or employee shall supervise the Owner. The Owner will exercise no supervision over any employee or official of the City. The Owner shall not represent that Owner is an employee or agent of the City in any capacity. The Owner has no right to Worker's Compensation benefits from the City or its insurance carriers or funds.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed on the day and year first above written.

WITNESS:

\_\_\_\_\_

Owner \_\_\_\_\_

By: \_\_\_\_\_

Printed: \_\_\_\_\_

Title: \_\_\_\_\_

ATTEST:

\_\_\_\_\_

CITY OF CARTERSVILLE,  
a Georgia Municipal Corporation

By: \_\_\_\_\_  
Mayor Matthew J. Santini

City Clerk Julia Drake

**Exhibit A**

**APPLICATION FOR INTERCONNECTION  
OF DISTRIBUTED GENERATION FACILITY**

(Attach Owner's "Application for Interconnection of Distributed Generation Facility" describing in detail the Owner's distributed generation facility, the "System".)

**Exhibit B**

**AUTHORIZATION or NON-AUTHORIZATION**

This notice is provided to the owner of a distributed generation system detailing authorization or non-authorization to connect to the City of Cartersville’s electric system pursuant to an existing Electrical Interconnection and Power Exchange Agreement.

This notice is an Exhibit B and is hereby made a part of said Agreement superseding any prior Exhibit B.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

.....

System tested by: \_\_\_\_\_

Date: \_\_\_\_\_

.....

**Section A: Authorization.** The System has been inspected and tested and may be connected to the City’s electric system

Signed by: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Title: \_\_\_\_\_

Date: \_\_\_\_\_

**OR**

**Section B: Non-Authorization.** The System cannot be connected to the City’s electric system because the System does not comply with Agreement or does not test properly.

Signed by: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Exhibit C**

**DISTRIBUTED GENERATION ENERGY RIDER**

(Attach Distributed Generation Energy Rider)

**Exhibit D**

**NOTICE OF POWER EXCHANGE AMOUNT**

This notice is provided to the owner of a distributed generation system detailing changes in the amount of Renewable Energy Credits and/or electrical energy to be purchased by the City of Cartersville pursuant to an existing Electrical Interconnection and Power Exchange Agreement.

This notice is an Exhibit D and is hereby made a part of said Agreement superseding any prior Exhibit D.

Date of Notice: \_\_\_\_\_

Consumption month change will occur: \_\_\_\_\_

Renewable Energy Credits to be purchased: \_\_\_\_\_

Maximum monthly consumption (kWh) to be purchased: \_\_\_\_\_