



Agreement for parallel connection of a medium sized photovoltaic generator paired with an Energy Storage System with the City of Lakeland's Electric Distribution System

This Agreement is made and entered into this ____ day of _____, 20____, by and between, the City of Lakeland, Florida, a Florida municipal corporation (the "City") and _____ (the "Customer"), whose address is _____ (the "Property").

Whereas, the City endeavors to encourage the development of electric power generation using renewable fuels; and

Whereas, the Customer desires to construct and/or operate a photovoltaic array connected in parallel with the City's power distribution system (hereafter "System") and an energy storage system through the Customer's connection to the meter at or on the Property; and

Whereas, there are electrical safety, power quality, and other issues with such an installation.

Now, therefore, for and in consideration of the mutual covenants and agreements the parties hereby agree as follows:

1. The City agrees that the photovoltaic generator and an energy storage system, as specified in the attached "**Application and Compliance Form For Medium PV Systems 500 KW or Less**" may be connected in parallel with the distribution system once the following condition are met;
 1. The Customer and the City have signed this agreement.
 2. The installation is in compliance with all provisions in the attached Appendix A, hereby made a part of this document.
 3. The "**Application and Compliance Form for Medium PV Systems 500 KW or Less**" document is completed and signed by the appropriate Electrical Inspector and the City.
 4. Appendix B has been signed by the applicant.
2. This Agreement applies solely to Customer's PV and energy storage system at or on the Property.
3. Prior to operation, the City reserves the right to inspect the PV system and energy storage system installations to ensure compliance with the standards and codes

noted in Appendix A. If the City chooses to exercise this option, it agrees to inspect and, if the system is in compliance, provide written approval of the interconnection (using the Application and Compliance Form) within ten (10) working days following the request for inspection and approval. Parallel operation of the photovoltaic system and energy storage system with the grid shall not begin without the City's approval.

4. The City reserves the right to refuse to accept electric power from the PV and energy storage system under extreme conditions as described below. If the City chooses to exercise this option, which may involve physically disconnecting the City's System from the PV and energy storage system, it agrees to make reasonable efforts to notify the Customer when such conditions exist or are anticipated to exist, and to reconnect when the adverse conditions no longer exist. Examples of conditions that may lead to disconnection include:
 - a. City System emergencies and/or maintenance requirements,
 - b. Hazardous conditions existing on the PV or energy storage system or their protective equipment,
 - c. Adverse effects of the PV or energy storage system's operation on the City System, or on other City customers, or
 - d. Failure of the PV or energy storage system to comply with regulations, rules, orders or decisions of any government or regulatory authority having jurisdiction over the City, generating equipment or operation.
5. If the kWh delivered to the City System exceeds the kWh delivered to the Customer's load in a billing cycle, a credit for the net kWh delivered to the City's system shall be carried forward to the next billing cycle. Credits may accumulate and be carried forward for a moving 12 month period. The moving 12 month period is defined as ending in the current billing cycle and starting same month last year plus one month. In no event shall the Customer be paid for excess energy delivered to the City System at the end of the 12 month moving period.
See "Appendix C" for additional information regarding pricing and rates.
6. The customer acknowledges that there may be green energy attributes, called Tradable Renewable Energy Credits, which are derived from the energy generated by these systems. The Customer agrees that the City retains full rights and ownership to these credits.
7. City reserves the right to terminate this Agreement with or without cause with 30 calendar days' written notice.
8. Any material default of this Agreement by the Customer shall allow City to immediately terminate this Agreement and disconnect the Customer's PV and energy storage system from City's System.
9. The Customer agrees to immediately notify City in writing if the Customer:
 - a. Sells the Property.
 - b. Makes a change to the PV or energy storage system.

- c. Sells the PV and energy storage system or a portion thereof.
- d. Performs maintenance on the PV or energy storage system that may have an impact on the City's System.

Notice should be sent to:

Jordan Faison, Engineer I
Lakeland Electric
501 East Lemon Street
Lakeland, FL 33801
Phone: (863) 834-6496
Jordan.Faison@lakelandelectric.com

10. Insurance and Indemnification. The Customer shall provide proof of and maintain at all times a general liability insurance policy for personal and property damage in the amount of at least \$100,000. A standard business policy in at least this amount may meet this requirement. Customer shall properly execute the Indemnification Agreement in the exact form as attached as Appendix B and deliver it the City upon submitting the Application set forth below.

By _____ Date: _____
Customer

By _____ Date: _____
City

APPENDIX A

INTERCONNECTION REQUIREMENTS FOR MEDIUM PHOTOVOLTAIC AND ENERGY STORAGE SYSTEMS 500 KW OR LESS

A. Definitions

1. A **medium photovoltaic (PV) System** is a solar electric generator with an array rating of greater than 10 KW and less than or equal to 500 kW under standard operating conditions (SOC) of 1000 watts/m² solar irradiance, nominal operating cell temperature, air mass 1.5, and ASTM standard solar spectrum.
2. A **medium Energy Storage System** is a storage system with an energy rating of greater than 10 KWH and less than or equal to 500 kWH under standard operating conditions (SOC).
3. In no case shall the total size of all photovoltaic systems exceed 100 percent of the customer's annual consumption nor 75 percent of the capacity of the transformer bank or service cables serving the premises.
4. An **inverter**, also referred to as a *power conditioner*, is a dc to ac device that converts PV or stored dc energy to ac energy for utility interconnection. The inverter contains many control functions, such as voltage and frequency monitoring and protection against islanding. These Interconnection Requirements apply only to static inverters. Rotating devices cannot be used.

B. Standards and Codes

1. **Inverter(s)**. The inverter(s) must be listed and in compliance with Underwriters Laboratories (UL) Subject 1741, Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems. Utility-interactive inverters that pass the tests of the new UL 1741 standard will be, by definition, "non-islanding" inverters and will comply with all elements of the IEEE 1547-2003 interconnection standard. The 1999 National Electrical Code requires that all utility-interactive photovoltaic systems use listed inverters that pass UL 1741.
2. **PV Modules and Panels**
 - a. PV modules and panels must be listed and be in compliance with Underwriters Laboratories (UL) Standard 1703, Standard for Safety: Flat-Plate Photovoltaic Modules and Panels.
 - b. PV modules must be in compliance with *IEEE Standard 1262-1995, IEEE Recommended Practice for Qualification of Photovoltaic (PV) Modules* (or, equivalently, IEC 61215).
3. **Energy Storage System**
 - a. Energy Storage Systems must be listed and be in compliance with Underwriters Laboratories (UL) Standard 1642, Standard for Lithium Batteries and Standard 9540, Standard for Energy Storage Systems and Equipment.

4. **System Installation.** The installed system must be in compliance with: a) *IEEE 1547-2003, Standard for Interconnecting Distributed Resources with Electric Power Systems* and b) all relevant articles of the *1999 National Electrical Code* (or subsequent revisions).
5. **External Disconnect Switch.** The City requires a manual, lockable, load break utility-interface disconnect switch between the output of the photovoltaic inverter and energy storage system and the Customer's wiring connected to the City of Lakeland's electric distribution system. The load break device shall be both visible and accessible to Lakeland's employees. Customer hereby grants a full license to access the Property and the PV system to ensure compliance herewith.
6. **Testing of Protective Relays.** City reserves the right to test the anti-islanding features and the power output quality of the inverter.
6. **PV System Equipment Protection.** It is the responsibility of the Customer to protect its generating equipment, inverters, protection devices, and other system components from damage by the normal conditions and operations that occur on the part of City in delivering and restoring System power. City hereby disclaims any liability whatsoever for damage to the Customer's equipment.
7. **Metering Arrangements.** The PV Inverter and energy storage output must be connected, by the Customer, to the Customer side of the normal service meter through an External Disconnect Switch.

The normal service meter shall be replaced with a meter that will measure and register power flowing into the Customer's property and measure and register power flowing from the customer's resource into the City System.

The City may, at its option, install a second meter to register the total output of the solar PV generator. This meter will be recorded monthly by the City; however, it will be a non-billing meter.

Upon completion and final acceptance of the customer's PV and energy storage system installation, the City will install these meters on the first day of the following billing cycle. Three business days prior notice from the Customer is required.

**APPLICATION AND COMPLIANCE FORM
FOR MEDIUM PV AND ENERGY STORAGE SYSTEMS 500 KW OR LESS**

A. Applicant Information	
Customer Name _____	Telephone # _____
Mailing Address _____	Email _____
City _____, FL _____	ZIP Code _____
Service address if different from mailing address _____	City _____
City account number _____	
B. Photovoltaic and Energy Storage System Information	
PV System Name/Model: _____	
PV Array DC Power at SOC in watts _____	
PV Array manufacturer and model _____	
PV Inverter manufacturer and model _____	
PV Array location _____	
PV Inverter location _____	
ESS Name/Model _____	
ESS DC Power at SOC in watt-hours _____	
ESS manufacturer and model _____	
ESS Inverter manufacturer and model _____	
ESS location _____	
AC Disconnect Location _____	
C. Installation Contractor Information	
Installation contractor name _____	Fl license # _____
Contractor address _____	City, State, ZIP _____
Contractor phone _____	
Proposed installation date _____	

D. Hardware and Installation Compliance

- 1.. The system hardware is in compliance with Underwriters Laboratories (UL) *Standard 1741, Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems* and *UL 1703, Standard for Safety: Flat-Plate Photovoltaic Modules and Panels*, and *IEEE 1262-1995, IEEE Recommended Practice for Qualification of Photovoltaic (PV) Modules*. *UL Standard 1642, Standard for Lithium Batteries and Standard 9540, Standard for Energy Storage Systems and Equipment*
2. The system has been installed in compliance with *IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems* and the *1999 National Electrical Code (NEC)*.

Contractor signature

Date

E. Owner Acknowledgment

The system has been installed to my satisfaction and I have been given system warranty information, and an operation manual. Also, I have been instructed in the operation of the system.

Owner signature

Date

F. Utility Approval and Electrical Code Inspection

PV Installation Satisfies THE CITY OF LAKE LAND Interconnection Requirements

CITY OF LAKE LAND Representative Name (Print):

CITY OF LAKE LAND Representative Signature:

Date

APPENDIX B
HOLD HARMLESS/INDEMNIFICATION

To the fullest extent permitted by laws and regulations, Customer shall defend, indemnify, and hold harmless the City, its officers, directors, agents, guests, invitees, and employees from and against all claims, damages, losses, and expenses, direct, indirect, or consequential (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising out of or resulting from any acts of commission, omission, negligence, recklessness or intentional wrongful misconduct of the Customer, or any other person or organization directly or indirectly employed by the Customer to perform or furnish any of the work or anyone for whose acts any of them may be liable.

In any and all claims against the City, or any of its officers, directors, agents, or employees by any employee of the Customer, or any other person or organization directly or indirectly employed by the Customer to perform or furnish any of the work or anyone for whose acts any of them may be liable, this indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Customer or any other person or organization under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts, nor shall this indemnification obligation be limited in any way by any limitation on the amount or type of insurance coverage provided by the City, or the Customer.

Applicability: It is the express intent of the Customer that this agreement shall apply for the project indicated below:

Parallel connection of a photovoltaic generator and energy storage system with the City of Lakeland's Electric Distribution System

Savings Clause: The parties agree that to the extent the written terms of this Indemnification conflict with any provisions of Florida laws or statutes, in particular Sections 725.06 and 725.08 of the Florida Statutes, the written terms of this indemnification shall be deemed by any court of competent jurisdiction to be modified in such a manner as to be in full and complete compliance with all such laws or statutes and to contain such limiting conditions, or limitations of liability, or to not contain any unenforceable, or prohibited term or terms, such that this Indemnification shall be enforceable in accordance with and to the greatest extent permitted by Florida Law.

Name of Organization

BY: _____
Signature of Owner or Officer

ATTEST: _____
Corporate Secretary or Witness

STATE OF : _____

COUNTY OF: _____

The foregoing instrument was acknowledged before me this ____ day of _____, 200

by _____, of

_____.

Printed Name of Owner / Officer

Corporate or Company Name

He/She is personally known to me or has produced

_____ as

State Drivers License Number

identification, and did _____ / did not _____ take an oath.

Signature of Person Taking Acknowledgment

Printed Name of Person Taking Acknowledgment

Title

Serial Number, if any

Notary Seal

APPENDIX C

General Service Business Demand Rate (GSBD)

Effective January 1, 2016, Lakeland Electric commercial customers who choose to install photovoltaic (PV) solar panels on their premises will be assigned to the General Service Business Demand (GSBD) price plan.

Note: this provision applies to non-demand commercial customers only. Commercial customers who are presently on a demand rate plan will remain on their existing plan.

The GSD plan is a combination of two things: 1) a peak demand charge (\$5.27 per kilowatt) and 2) a lower energy rate (\$0.02427 per kilowatt-hour). Customers on the new GSBD plan can benefit by:

- managing their demand and
- paying a lower energy rate at all times.

The GSBD monthly bill is calculated using the customer's total kilowatt-hour consumption plus the customer's highest demand during the billing period.

Additional information regarding the GSBD price plan is available at Lakeland Electric Customer Service (863-834-9535) or on the Lakeland Electric website.

Go to <http://www.lakelandelectric.com/customers/rate-information/solar-price-plan>.