



**Agreement for Parallel Connection of a Photovoltaic Generator
with City of Manassas Electric Distribution System by a Residential Customer**

This agreement is made and entered into this ____ day of _____, 20____,
by and between, City of Manassas Utilities Department (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") through the Customer's main switchboard or panel on Customer's 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, as specified in the attached "**Application and Compliance Form for PV Systems**" may be connected in parallel with the distribution system under the following conditions:
 - a. The Customer and the City have signed this agreement.
 - b. The installation is in compliance with all provisions in the attached Appendix A, hereby made a part of this document.
 - c. The "**Application and Compliance Form For PV Systems**" document is completed and signed by the appropriate parties, including the Electrical Inspector and the City.
 - d. The installed capacity of this installation, when combined with the installed capacity of all other renewable generators on the City's system, does not exceed 1% of the City's peak demand for the previous year.
2. This Agreement applies solely to Customer's PV system on Customer's Property.

3. Prior to operation, the City reserves the right to inspect the PV system installation 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 with the grid shall not begin without the City's approval.
4. The Interconnection Customer shall test and inspect its Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the City of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day, unless otherwise agreed to by the Parties. The City may, at its own expense, send qualified personnel to the Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the City a written test report when such testing and inspection is completed.
5. The City reserves the right to refuse to accept electric power from the PV 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 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. System emergencies and/or maintenance requirements.
 - b. Hazardous conditions existing on the PV system or its protective equipment.
 - c. Adverse effects of the PV system's operation on the City's System, or on other City customers, including but not limited to voltage regulation, harmonic distortion, DC injection, etc. or any other effect that will jeopardize the integrity of the City's distribution system.
 - d. Failure of the PV system to comply with regulations, rules, orders or decisions of any government or regulatory authority having jurisdiction over the City, generating equipment or operation of PV System.
6. If the power output (kW) of the customer generation exceeds the load (kW) of the customer premises at any time during a billing cycle, the resulting energy (kWh) returning to the City's system will be netted against the energy (kWh) consumed by the customer during that same billing cycle. If during a billing cycle the netted amount is a credit, this energy will be carried forward and applied to the usage in the next billing cycle. If no energy is used or the net result is a credit, the customer will pay the Customer Charge for the billing period.

7. 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 City agrees that the Customer retains full rights and ownership to these credits.
8. The City reserves the right to terminate this Agreement with cause with 30 calendar days written notice.
9. Any material default of this Agreement by the Customer shall allow the City to immediately terminate this Agreement and disconnect the Customer's PV system from the City's System.
10. The Customer agrees to immediately notify the City in writing if the Customer:
 - a. Sells the Property.
 - b. Makes a change to the PV system.
 - c. Sells the PV system or a portion thereof.
 - d. Performs maintenance on the PV system that may have an impact on the City's System.

Notice should be sent to:

City of Manassas

Utilities Department

8500 Public Works Drive

Manassas, VA 20110

Phone (703) 257-8219

11. Insurance

The Customer shall provide proof, at time of application, 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 residential policy in at least this amount may meet this requirement.

12. Indemnification

The Parties shall at all times indemnify, defend and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney's fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inaction of its obligations hereunder on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

By: _____ Date: _____
Customer

By: _____ Date: _____
City of Manassas, Utilities Department

APPENDIX A

INTERCONNECTION REQUIREMENTS FOR PHOTOVOLTAIC SYSTEMS

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 2005 National Electric Code requires that all utility-interactive photovoltaic systems use listed inverters that pass UL 1741. Inverters supplied as a part of the interconnection system shall not supply fault current to the City system or continue to energize the City system in the event of a fault.
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).
 - c. The City requires control drawings and final test reports on the installation/start up.
3. **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 *2005 National Electric Code* (or subsequent revisions).
4. **External Disconnect Switch.** The City requires a manual, lockable, load break utility-interface disconnect switch between the output of the photovoltaic inverter and the Customer’s wiring connected to the City’s electric distribution system. The load break device shall be both visible and accessible to the City’s employees. Customer hereby grants a full license to access the Property and the PV system to ensure compliance herewith.
5. **Transformer Loading.** In no case shall the size of the photovoltaic system exceed 100 percent of the capacity of the transformer bank between the Customer’s PV generator and the City’s System.
6. **Testing of Interface Equipment.** The City reserves the right to test the anti-islanding features and the power output quality of the inverter.

7. **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 the City in delivering and restoring System power. The City hereby disclaims any liability whatsoever for damage to the Customer's equipment.

8. **Electrical One Line Diagram.** An electrical one-line drawing depicting the project equipment to be installed must be furnished by the customer and made a part of the interconnection report.

**APPLICATION AND COMPLIANCE FORM
FOR PHOTOVOLTAIC SYSTEMS**

Section 1. Applicant Information

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number(s): _____

Fax Number: _____ Email Address: _____

Facility Location (if different from above): _____

Manassas Electric Account #: _____

Proposed Interconnection Date: _____

Section 2. Generating Facility Information

Facility Owner and/or Operator Name (if different from Applicant): _____

Business Relationship to Applicant: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number(s): _____

Fax Number: _____ Email Address: _____

Generator Manufacturer and Model: _____

Rated Capacity in kilowatts: AC _____ DC _____

Inverter Manufacturer and Model: _____

Battery Backup (circle one): Yes No

Section 3. Vendor Certification

The system hardware is listed by Underwriters Laboratories to be in compliance with UL 1741.

Signed (Vendor): _____ Date: _____

Name (printed): _____ Phone Number: _____

Company: _____

Section 4. Electrician Certification

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.*

The system has been installed in compliance with *IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems and the 2005 National Electrical Code (NEC).*

Signed (Licensed Electrician): _____ Date: _____

Name (printed): _____

License Number: _____ Phone Number: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Section 5. 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

Section 6. Utility Approval and Electrical Code Inspection

PV Installation Satisfies the City's Interconnection Requirements

City of Manassas Representative Name (Print)

City of Manassas Representative Signature

Date

PV Installation Satisfies Code Requirements

Inspector Name (Print)

Inspector Signature

Date

I hereby certify that, to the best of my knowledge, all of the information provided in this Notice is true and correct.

Signature of Applicant: _____ **Date:** _____