

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 KW OR LESS**

For Customers Applying for Interconnection:

If you are interested in applying for interconnection to the electrical system of Union Electric d/b/a Ameren Missouri (Company), you should first contact Company and ask for information related to interconnection of parallel generation equipment to Company's system and you should understand this information before proceeding with this Application.

If you wish to apply for interconnection to Company's electrical system, please complete sections A, B, C, and D, and attach the plans and specifications including, but not limited to, describing the parallel generation and interconnection facilities (hereinafter collectively referred to as the "Generator System") and submit them to Company at the address above.

If this Application is denied, you will be provided with the reason(s) for the denial. If this Application is approved and signed by both you and Company, it shall become a binding contract and shall govern your relationship with Company.

**For Customers Who Have Received Approval of
Generator System Plans and Specifications:**

After receiving approval of your Application, it will be necessary to construct the Generator System in compliance with the plans and specifications described in the Application, complete sections E and F of this Application, and forward this Application to Company for review and completion of section G at the address above. Prior to the interconnection of the Generator System to Company's system, the Customer will furnish Company a certification from a qualified professional electrician or engineer that the installation meets the plans and specification described in the application. If a local Authority Having Jurisdiction (AHJ) requires permits or certifications for construction or operation of the qualified Generator System, a Customer must show the permit number and approval certification to Company prior to interconnection. If the application for interconnection is approved by Company and the Customer does not complete the interconnection within one (1) year after receipt of notice of the approval, the approval shall expire and the Customer shall be responsible for filing a new application.

Within 21 days of when the Customer completes submission of all required post construction documentation, including sections E&F, other supporting documentation and local AHJ inspection approval (if applicable) to Company and payment of any interconnection costs, Company will make any inspection of the Generator System interconnection equipment or system it deems necessary and notify the Customer:

1. That the bidirectional meter has been set and parallel operation of the Generator System is permitted; or
2. That the Company's inspection identified no deficiencies and the bidirectional meter installation is pending; or
3. That the Company's inspection identified no deficiencies and the timeframe anticipated for Company to complete all required system or service upgrades and install the bidirectional meter; or
4. Of all deficiencies identified during the Company's inspection that need to be corrected by the Customer before parallel operation will be permitted; or
5. Of any other issue(s), requirement(s) or conditions(s) impacting the installation of the bidirectional meter or the parallel operation of the system.

**For Customers Who Are Assuming Ownership or Operational
Control of an Existing Generator System:**

If no changes are being made to the existing Generator System, complete sections A, D and F of this Application/Agreement and forward to Company at the address above. Company will review the new Application/Agreement and shall approve such, within fifteen (15) days of receipt by Company, if the new Customer has satisfactorily completed Application/Agreement, and no changes are being proposed to the existing Generator System. There are no fees or charges for the Customer who is assuming ownership or operational control of an existing Generator System if no modifications are being proposed to that system.

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

Union Electric d/b/a Ameren Missouri (Company) Address:

One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149, MC 921
St. Louis MO 63103
Attn: General Executive, Renewables

A. Customer's Information

Name on Company Electric Account: _____
Service/Street Address: _____
City: _____ State: _____ Zip Code: _____
Mailing Address (if different from above): _____
City: _____ State: _____ Zip Code: _____
Electric Account Holder Contact Person: _____
Electric Account Holder E-mail address (if available): _____
Daytime Phone: _____ Fax: _____
Emergency Contact Phone: _____
Company Account No. (from Utility Bill): _____
If account has multiple meters, provide the meter number to which generation will be connected: _____

B. Generator System Information

Manufacturer Name Plate: Generator Power Rating: _____ KW DC
Inverter Power Rating: _____ kW AC or DC (circle one)
Voltage: _____ Volts
System Type: ___ Wind, ___ Fuel Cell, ___ Solar Thermal, ___ Photovoltaic, ___ Hydroelectric,
___ Other (describe) _____
Inverter/Interconnection Equipment Manufacturer: _____
Inverter/Interconnection Equipment Model No.: _____
Outdoor Manual/Utility Accessible & Lockable Disconnect Switch Distance from Meter: _____
Describe the location of the disconnect switch: _____

If disconnect switch is greater than 10 feet from electric service meter, describe why an alternate location is being requested: _____
Existing Electrical Service Capacity: _____ Amperes Voltage: _____ Volts
Service Character: Single Phase _____ Three Phase _____
Total capacity of existing Generator System (if applicable): _____ kW

System Plans, Specifications and Wiring Diagram must be attached for a valid application and include any other generation (i.e. emergency backup) at the Customer's site.

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

C. Installation Information/Hardware and Installation Compliance

Company Installing System: _____
Contact Person of Company Installing System: _____ Phone Number: _____
Contractor's License No. (if applicable): _____
Approximate Installation Date: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Daytime Phone: _____ Fax: _____ E-Mail: _____
Person or Agency Who Will Inspect/Certify Installation: _____

The Generator System's proposed hardware complies with all applicable National Electrical Safety Code (NESC), National Electrical Code (NEC), Institute of Electrical and Electronics Engineers (IEEE) and Underwriters Laboratories (UL) requirements for electrical equipment and their installation. As applicable to System type, these requirements include, but are not limited to, UL 1703, UL 1741 and IEEE 1547. The proposed Generator System installation complies with all applicable local electrical codes and all reasonable safety requirements of Company. The proposed Generator System has a lockable, visible AC disconnect device, accessible at all times to Company personnel and switch is located adjacent to the Customer's electric service meter (except in cases where Company has approved an alternate location). The Generator System is only required to include one lockable, visible disconnect device, accessible to Company. If the interconnection equipment is equipped with a visible, lockable, and accessible disconnect, no redundant device is needed to meet this requirement.

The proposed Generator System has functioning controls to prevent voltage flicker, DC injection, overvoltage, undervoltage, overfrequency, underfrequency, and overcurrent, and to provide for Generator System synchronization to Company's electrical system. The proposed Generator System does have an anti-islanding function that prevents the Generator System from continuing to supply power when Company's electric system is not energized or operating normally. If the proposed Generator System is designed to provide uninterruptible power to critical loads, either through energy storage or back-up generation, the proposed Generator System includes a parallel blocking scheme for this backup source that prevents any backflow of power to Company's electrical system when the electrical system is not energized or not operating normally.

Signed (Installer): _____ Date: _____

Name (Print): _____

D. Additional Terms and Conditions

In addition to abiding by Company's other applicable rules and regulations, the Customer understands and agrees to the following specific terms and conditions:

1. Operation/Disconnection

If it appears to Company, at any time, in the reasonable exercise of its judgment, that operation of the Generator System is adversely affecting safety, power quality or reliability of Company's electrical system, Company may immediately disconnect and lock-out the Generator System from Company's electrical system. The Customer shall permit Company's employees and inspectors reasonable access to inspect, test, and examine the Generator System.

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

2. Liability

Without limiting the scope or extent of the protection afforded Company, Customer and its Contractors shall obtain and maintain in force for the entire life of this Agreement the following insurance and name Company, its subsidiaries and affiliates as additional insured on primary and non-contributory basis:

- a) Commercial General Liability insurance specifically including, without limitation, contractual liability insurance to cover liability assumed by Customer and its Contractors with combined single limits, per accident, of not less \$1,000,000 for bodily injury, including death and property damage. Such coverage shall include products and completed operations.
- b) Commercial Umbrella Liability insurance with limits of not less than \$2,000,000 per occurrence.

Each insurance policy provided by Customer and its Contractors shall include the following:

- a) At least thirty (30) days prior written notice of cancellation or material change to Company; and
- b) Waiver of subrogation against Company, their affiliates and officers, directors, agents, subcontractors and employees.

Proof of insurance, in the form of Certificates of Insurance, for all coverages specified herein shall be provided to Company prior to the commencement of constructing any facilities to connect the Customer's Generation to the Electric System, and from time to time thereafter as reasonably requested by Company. All insurance coverage required under this Agreement shall be provided by insurance companies reasonably acceptable to Company.

The insurance coverage described above shall be primary to any other coverage available to Company and shall not be deemed to limit Customer's or its Contractors liability under this Agreement.

3. Metering and Distribution Costs

If it is necessary for Company to install additional distribution equipment to accommodate the Customer's Generator System, the Customer shall reimburse Company for the costs to purchase and install the necessary additional equipment.

4. Ownership of Renewable Energy Credits or Renewable Energy Certificates (REC's)

Renewable Energy Credits (RECs) created through the generation of electricity by the Customer's Generator System are owned by the Customer.

5. Energy Pricing and Billing

Company's standard rates for retail electric service shall apply to all energy delivered by Company to Customer.

Customer has either voluntarily elected not to enroll in Company's Net Metering tariff or is not eligible for that tariff.

Initial One:

_____ **No excess energy purchases by Company** - Metering equipment necessary to measure the delivery of energy from Customer to Company **will not** be installed. Any energy delivered by Customer to Company will not be measured and Customer understands that no compensation will be provided by Company for any such energy.

_____ **Excess energy purchases by Company** - Metering equipment to measure the delivery of energy from Customer to Company **will** be installed. Any energy delivered by Customer to Company will be purchased by Company in accordance with Company's Electric Power Purchases From Qualifying Facilities tariff, and **Customer will be assessed the monthly Customer Charge specified in Section 1.c. (in addition to the Customer Charge applicable under Company's standard rates for retail electric service)**. Energy purchased by Company will be at the rates specified in Section 1.a. Non-Time-Differentiated rate unless the Customer has elected to purchase energy under one of Company's Time-of-Day rates in which case the energy purchased by Company will be at the rates specified in Section 1.b. Time-Differentiated rate.

6. Terms and Termination Rights

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

This Agreement becomes effective when signed by both the Customer and Company, and shall continue in effect until terminated. After fulfillment of any applicable initial tariff or rate schedule term, the Customer may terminate this Agreement at any time by giving Company at least thirty (30) days prior written notice. In such event, the Customer shall, no later than the date of termination of Agreement, completely disconnect the Generator System from parallel operation with Company's system. Either party may terminate this Agreement by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of this Agreement, so long as the notice specifies the basis for termination, and there is an opportunity to cure the default. This Agreement may also be terminated at any time by mutual agreement of the Customer and Company. This Agreement may also be terminated, by approval of the Commission, if there is a change in statute that is determined to be applicable to this contract and necessitates its termination.

7. Transfer of Ownership

If operational control of the Generator System transfers to any other party than the Customer that entered into this Agreement, a new Application/Agreement must be completed by the person or persons taking over operational control of the existing Generator System. Company shall be notified no less than thirty (30) days before the Customer anticipates transfer of operational control of the Generator System. The person or persons taking over operational control of the Generator System must file a new Application/Agreement, and must receive authorization from Company, before the existing Generator System can remain interconnected with Company's electrical system. The new Application/Agreement will only need to be completed to the extent necessary to affirm that the new person or persons having operational control of the existing Generator System completely understand the provisions of this Application/Agreement and agrees to them. If no changes are being made to the Generator System, completing sections A, D (including satisfying insurance requirements) and F of this Application/Agreement will satisfy this requirement. If no changes are being proposed to the Generator System, Company will assess no charges or fees for this transfer. Company will review the new Application/Agreement and shall approve such, within fifteen (15) days, if the new Customer has satisfactorily completed the Application/Agreement, and no changes are being proposed to the existing Generator System. Company will then complete section G and forward a copy of the completed Application/Agreement back to the new Customer, thereby notifying the new Customer that the new Customer is authorized to operate the existing Generator System in parallel with Company's electrical system. If any changes are planned to be made to the existing Generator System that in any way may degrade or significantly alter that Generator System's output characteristics, then the Customer shall submit to Company a new Application/Agreement for the entire Generator System and all portions of the Application/Agreement must be completed.

8. Dispute Resolution

If any disagreements between the Customer and Company arise that cannot be resolved through normal negotiations between them, the disagreements may be brought to the Missouri Public Service Commission by either party, through an informal or formal complaint. Procedures for filing and processing these complaints are described in 4 CSR 240-2.070. The complaint procedures described in 4 CSR 240-2.070 apply only to retail electric power suppliers to the extent that they are regulated by the Missouri Public Service Commission.

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

9. Testing Requirement

IEEE 1547 requires periodic testing of all interconnection related protective functions. The Customer must, at least once every year, conduct a test to confirm that the Generator System automatically ceases to energize the output (interconnection equipment output voltage goes to zero) within two (2) seconds of being disconnected from Company's electrical system. Disconnecting the Generation System from Company's electrical system at the visible disconnect switch and measuring the time required for the unit to cease to energize the output shall satisfy this test. The Customer shall maintain a record of the results of these tests and, upon request by Company, shall provide a copy of the test results to Company. If the Customer is unable to provide a copy of the test results upon request, Company shall notify the Customer by mail that Customer has thirty (30) days from the date the Customer receives the request to provide to Company, the results of a test. If the Generator System ever fails this test, the Customer shall immediately disconnect the Generator System from Company's system. If the Customer does not provide results of a test to Company within thirty (30) days of receiving a request from Company or the results of the test provided to Company show that the Customer's Generator System is not functioning correctly, Company may immediately disconnect the Generator System from Company's system. The Generator System shall not be reconnected to Company's electrical system by the Customer until the Generator System is repaired and operating in a normal and safe manner.

10. Future Rates

Customer electricity rates, charges and service fees determined by the Missouri Public Service Commission are subject to change. Future rate adjustments may positively or negatively impact financial savings projected from your generation investment. Ameren Missouri makes no guarantees regarding savings based on future electricity rate projections, including those formulated by third parties.

I have read, understand, and accept the provisions of Section D, subsections 1 through 10 of this Application/Agreement.

Signed (Customer-Generator): _____ Date: _____

**INTERCONNECTION APPLICATION/AGREEMENT FOR INVERTER-BASED
GENERATOR SYSTEMS WITH CAPACITY OF 1,000 kW OR LESS (Cont'd.)**

E. Electrical Inspection

If a local Authority Having Jurisdiction (AHJ) governs permitting/inspection of project:

Authority Having Jurisdiction (AHJ): _____

Permit Number: _____

Applicable to all installations:

The Generator System referenced above satisfies all requirements noted in Section C.

Inspector Name (print): _____

Inspector Certification: Licensed Engineer in Missouri _____ or
Licensed Electrician in Missouri _____ License No. _____

Signed (Inspector): _____ Date: _____

F. Customer Acknowledgement

I am aware of the Generator System installed on my premises and I have been given warranty information and/or an operational manual for that system. I am familiar with the operation of the Generator System.

I agree to abide by the terms of this Application/Agreement and I agree to operate and maintain the Generator System in accordance with the manufacturer's recommended practices as well as the Company's interconnection standards. If, at any time and for any reason, I believe that the Generator System is operating in an unusual manner that may result in any disturbances on Company's electrical system, I shall disconnect the Generator System and not reconnect it to Company's electrical system until the Generator System is operating normally after repair or inspection. Further, I agree to notify Company no less than thirty (30) days prior to modification of the components or design of the Generator System that in any way may degrade or significantly alter that Generator System's output characteristics. I acknowledge that any such modifications will require submission of a new Application/Agreement to Company.

I agree not to operate the Generator System in parallel with Company's electrical system until this Application/Agreement has been approved by Company.

System Installation Date: _____

Printed Name (Customer): _____

Signed (Customer): _____ Date: _____

G. Application Approval (completed by Company)

Company does not, by approval of this Application/Agreement, assume any responsibility or liability for damage to property or physical injury to persons due to malfunction of the Customer's Generator System or the Customer's negligence.

This Application is approved by Company on this _____ day of _____ (month), _____ (year).

Company Representative Name (print): _____

Signed Company Representative: _____