Ameren Missouri 2017 Net Metering Report

12/31/20/16

Total Net Metering Customers	3,813	
Total Net Metered Generator Capacity	54,099	kW *
Total net kWh Received by Ameren Missouri	3,629,247	kWh

* Corrected

ELECTRIC POWER PURCHASES

ELECTRIC POWER PURCHASES FROM QUALIFIED NET METERING UNITS

1. BILLING

a. Energy Pricing and Billing

Each billing period, Company shall measure the net electrical energy produced or consumed and bill the Customer-Generator as follows:

i. If the electricity supplied by Company exceeds the electricity supplied by the Customer-Generator to Company, Company's bill will reflect the net electricity supplied by Company and the Customer-Generator's current service classification.

ii. If the electricity supplied by Company is less than the electricity supplied by the Customer-Generator to Company, Company's bill will include a credit for the net electricity received by Company in accordance with the Net Metering Rate (Avoided Fuel Cost) in Section 1.c) below.

b. Minimum Bill

Net metering does not modify or eliminate any Customer obligation(s) or billing provision(s) of the Customer's current rate schedule for delivery of electric power and energy such as the Customer Charge or any minimum billing demand (if applicable).

c. *Net Metering Rate (Avoided Fuel Cost)

Summer Rate (Applicable during 4 monthly billing periods of June through September)

Summer	2.68¢ per kWh

Winter Rate (Applicable during 8 monthly billing periods of October through May)

Winter	2.47¢ per kWh

The above rates are updated during each odd-numbered year with the update typically effective February 15.

*Indicates Revision

ELECTRIC POWER PURCHASES

ELECTRIC POWER PURCHASES FROM QUALIFIED NET METERING UNITS (Cont'd.)

***2. APPLICATION**

This tariff applies to Company purchases of electric energy from Qualified Net Metering Units (hereinafter referred to as "Customer-Generator") under the provisions of Section 386.890RSMo. the 'Net Metering and Easy Connection Act'. The Customer-Generator must meet the general technical requirements, testing requirements, and liability requirements listed under the provisions of Section 386.890RSMo. the 'Net Metering and Easy Connection Act', as well as the requirements specified in the Customer-Generators' applicable rate class under the Company's Schedule 6 – Schedule of Rates for Electric Service. Service under this rate shall be evidenced by a contract between Customer-Generator and the Company per the Interconnection Application/Agreement for Net Metering Systems With Capacity of 100 kW or less.

The availability of net metering is limited to those types of generation that have been certified by the Missouri Department of Economic Development's Division of Energy as renewable energy resources and which is intended primarily to offset part or all of the customer-generator's own electrical energy requirements. Net metering cannot be elected in conjunction with "Optional Time-of-Day Rate" service of any of Company's rate schedule.

Company will provide net metering service until the total rated generating capacity used by Customer-Generators is equal to or in excess of five percent (5.0%) of Company's single-hour peak load during the previous year. However in a given calendar year, no retail electric supplier shall be required to approve any application for interconnection if the total rated generating capacity of all application for interconnection already approved to date by said supplier in said calendar year equals or exceeds one percent (1.0%) of said supplier's single-hour peak load for the previous calendar year.

3. CONTRACT

Whether or not purchases are made by Company under the standard rates, Company shall not be required to make any purchase from Customer-Generator until Company and Customer-Generator have entered into a written contract for such purchases.

4. GENERAL RULES AND REGULATIONS

All provisions of this tariff are subject to all Commission rules and regulations as may be revised from time-to-time. All terms of the tariff are also subject to the Commission's normal complaint and arbitration procedures.

*Indicates Change

ELECTRIC POWER PURCHASES

ELECTRIC POWER PURCHASES FROM QUALIFIED NET METERING UNITS (Cont'd.)

GUIDELINE TECHNICAL REQUIREMENTS FOR PARALLEL OPERATION WITH THE COMPANY'S SYSTEM

Introduction

The minimum technical requirements for safe parallel operation of Customer-Generator's electrical generating facilities with the Company's system are set forth below. These requirements will serve as a guide for Company and Customer-Generator engineering when planning such an installation; however, it is recognized that each installation may have specific requirements other than those set forth herein as a result of each installation's unique nature.

General Technical Requirements

1. Protection

Customer-Generator shall install protective devices capable of detecting fault conditions on both his system and the Company's system. These devices will separate Customer-Generator's system from the Company's system either directly or through an auxiliary device such as a circuit breaker. The separating device must be capable of interrupting the available fault current. The detection sensitivity and operating speed of these devices must be compatible with protective devices on the Company's system.

The Customer-Generator shall install equipment designed to automatically separate his system from the Company's system upon loss of the normal Company supply.

The Customer-Generator is responsible for protecting Customer-Generator's equipment in such a manner that faults or other disturbances on the Company's system or on Customer-Generator's system do not cause damage to his equipment.

Customer-Generator shall furnish information to Company regarding his proposed generation equipment and protective devices prior to parallel operation. Company will check the adequacy of this proposed equipment and its compatibility with protective devices on the Company's system and will either approve as submitted or specify additional equipment which will be required in order to begin parallel operation with the Company's system.

All protective relay settings that would affect any Company system relay settings will be specified by Company. These relays will be initially calibrated by Company to assure proper operation.

A manual visible disconnect switch must be provided which is under the exclusive jurisdictional control of the Company's dispatcher. This manual switch must have the capability to be locked out of service by a Company-authorized switchman.

ELECTRIC POWER PURCHASES

ELECTRIC POWER PURCHASES FROM QUALIFIED NET METERING UNITS (Cont'd.)

General Technical Requirements (Cont'd.)

1. Protection (Cont'd.)

The above statements are the basic minimum protection requirements that would be associated with parallel generation. Additional requirements and/or equipment would depend on an in-depth study of each proposed connection.

2. Operation

Under certain conditions the intertie breaker (if one is required) must be operated by Customer-Generator in order for Company to operate the manual disconnect switch. Company may request this action for any of the following reasons:

a. System emergency.

b. Inspection of Customer-Generator’s generating equipment or protective equipment reveals an unsafe condition.

c. Customer-Generator’s generating equipment interferes with other customers or with the operation of the Company’s system.

d. An outage is scheduled on the Company’s supply circuit or feeder.

Customer-Generator shall be solely responsible for properly synchronizing his generating equipment with the Company’s frequency and voltage. This includes resynchronizing his generator(s) after system outages or disturbances.

3. Quality of Service

The interconnection of Customer-Generator’s generating equipment with the Company’s system shall not cause any reduction in the quality of service being provided to other customers or cause any undesirable effect on any Company facilities. Such interconnection shall be pursuant to the latest revision of IEEE 519 and IEEE 1547.

The power factor of Customer-Generator’s load with his generating equipment connected shall not be less than that specified by retail tariff for his applicable customer class.

4. Metering and/or Additional Distribution Equipment

The revenue metering for Net Metering shall be sufficient to measure the net amount of electrical energy produced or consumed by the Customer-Generator. If the Customer-Generator’s existing meter equipment does not meet these requirements or if it is necessary for Company to install additional distribution equipment to accommodate the Customer-Generator’s facility, the Customer-Generator shall reimburse the Company for the costs to purchase and install the necessary additional equipment.

ELECTRIC POWER PURCHASES

ELECTRIC POWER PURCHASES FROM QUALIFIED NET METERING UNITS (Cont'd.)

General Technical Requirements (Cont'd.)

4. Metering and/or Additional Distribution Equipment (Cont'd.)

At the request of the Customer-Generator, such costs may be initially paid for by Company, and any amount up to the total costs and a reasonable interest charge may be recovered from the Customer-Generator over the course of up to twelve (12) billing periods. Net Metering cannot occur until the installation of such meter(s) and/or additional distribution equipment has been completed.

5. Other Requirements

All Customer-Generator installations shall adhere to any applicable requirements of the National Electrical Safety Code, the National Electric Code, Institute of Electrical and Electronics Engineers (IEEE), Underwriters Laboratories (UL), local electric codes, applicable NEMA codes, OSHA, and Company's Electric Service Rules as set forth in published tariffs.

*6. Approval of Submitted Application and Design

Company will approve or reject the application and design submitted by Customer. If an application or design and the supporting documentation are materially incomplete, the application will be invalid and rejected and the customer and developer will be so notified.

Until solar rebate payments under Company's Rider SR – Solar Rebate tariff are suspended, Company will approve an application and design a second time in the following cases:

a) Where a solar rebate commitment is made subsequent to the initial net metering application and design approval in order to align the expiration dates of the net metering application and design approval and the solar rebate commitment.
b) Where the initial net metering application and design approval is approaching the twelve (12) month expiration and has not yet received a rebate commitment in order to maintain the position in the solar rebate queue.

Company will notify the customer and developer of any application or design deficiencies, errors or omissions identified or clarifications requested by Company.

Company will post information on its website www.ameren.com indicating what is required for an application to be considered complete as well as guidance regarding the types of deficiencies, errors, omissions or clarifications that, if corrected, will not result in a rejection.

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS

*__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
Att: General Executive, Renewables

*For Customers Applying for Interconnection:

If you are interested in applying for interconnection to Company's electrical system, 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 net metering, parallel generation, and interconnection facilities (hereinafter collectively referred to as the "Customer-Generator's System") and submit them to Company at the address above.

The Company will provide notice of approval or denial within thirty (30) days of receipt by Company for Customer-Generators of ten kilowatts (10 kW) or less and within ninety (90) days of receipt by Company for Customer-Generators of greater than ten kilowatts (10 kW). 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 Customer-Generator System Plans and Specifications:

After receiving approval of your Application, it will be necessary to construct the Customer-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 qualified generation unit to Company's system, the Customer-Generator 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 generation unit, a Customer-Generator 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-Generator does not complete the interconnection within one (1) year after receipt of notice of the approval, the approval shall expire and the Customer-Generator shall be responsible for filing a new application.

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS (Cont'd.)

***For Customers Who Have Received Approval of Customer-Generator System Plans and Specifications (Cont'd.):**

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

1. That the bidirectional meter has been set and parallel operation by Customer-Generator 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-Generator 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 Installing Solar Systems:**

Ameren Missouri solar rebate funds are no longer available for new applicants. However, if you submitted an application in December 2013 you are in the rebate commitment queue. Please refer to Company's Rider SR – Solar Rebate for the applicable rebate rate and additional details and requirements. For those eligible, the rebate is limited to 25,000 watts (25 kW) and the rebate rate will be based on the following schedule:

$2.00 per watt for systems operational on or before June 30, 2014;
$1.50 per watt for systems operational between July 1, 2014 and June 30, 2015;
$1.00 per watt for systems operational between July 1, 2015 and June 30, 2016;
$0.50 per watt for systems operational between July 1, 2016 and June 30, 2019;
$0.25 per watt for systems operational between July 1, 2019 and June 30, 2020;
$0.00 per watt for systems operational after June 30, 2020.

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

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

If no changes are being made to the existing Customer-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-Generator has satisfactorily completed Application/Agreement, and no changes are being proposed to the existing Customer-Generator System. There are no fees or charges for the Customer-Generator who is assuming ownership or operational control of an existing Customer-Generator System if no modifications are being proposed to that System.

*Indicates Reissue

*A. Customer-Generator'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. Customer-Generator's System Information

Manufacturer Name Plate: 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 Customer-Generator System (if applicable): _____ kW

System Plans, Specifications and Wiring Diagram must be <u>attached</u> for a valid application.

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 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 Customer-Generator's proposed System 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 installation complies with all applicable local electrical codes and all reasonable safety requirements of Company. The proposed System has a lockable, visible AC disconnect device, accessible at all times to Company personnel and switch is located adjacent to the Customer-Generator's electric service meter (except in cases where Company has approved an alternate location). The 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 Customer-Generator's proposed System has functioning controls to prevent voltage flicker, DC injection, overvoltage, undervoltage, overfrequency, underfrequency, and overcurrent, and to provide for System synchronization to Company's electrical system. The proposed System does have an anti-islanding function that prevents the generator from continuing to supply power when Company's electric system is not energized or operating normally. If the proposed System is designed to provide uninterruptible power to critical loads, either through energy storage or back-up generation, the proposed 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): _____

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

D. Additional Terms and Conditions

In addition to abiding by Company's other applicable rules and regulations, the Customer-Generator 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 Customer-Generator's System is adversely affecting safety, power quality or reliability of Company's electrical system, Company may immediately disconnect and lock-out the Customer-Generator's System from Company's electrical system. The Customer-Generator shall permit Company's employees and inspectors reasonable access to inspect, test, and examine the Customer-Generator's System.

****2. Liability**

Liability insurance is not required for Customer-Generators of ten kilowatts (10 kW) or less. For Customer-Generators greater than ten kilowatts (10 kW), the Customer-Generator agrees to carry no less than one hundred thousand dollars ($100,000) of liability insurance that provides for coverage of all risk of liability for personal injuries (including death) and damage to property arising out of or caused by the operation of the Customer-Generator's System. Insurance may be in the form of an existing policy or an endorsement on an existing policy.

Customer-Generators, including those whose systems are ten kilowatts (10 kW) or less, may have legal liabilities not covered under their existing insurance policy in the event the Customer-Generator's negligence or other wrongful conduct causes personal injury (including death), damage to property, or other actions and claims.

***3. Metering and Distribution Costs**

A Customer-Generator's facility shall be equipped with sufficient metering equipment that can measure the net amount of electrical energy produced or consumed by the Customer-Generator. If the Customer-Generator's existing meter equipment does not meet these requirements or if it is necessary for Company to install additional distribution equipment to accommodate the Customer-Generator's facility, the Customer-Generator shall reimburse Company for the costs to purchase and install the necessary additional equipment. At the request of the Customer-Generator, such costs may be initially paid for by Company, and any amount up to the total costs and a reasonable interest charge may be recovered from the Customer-Generator over the course of up to twelve (12) billing cycles. Any subsequent meter testing, maintenance, or meter equipment change necessitated by the Customer-Generator shall be paid for by the Customer-Generator.

*Indicates Reissue **Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

D. Additional Terms and Conditions (Cont'd.)

***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-Owner are owned by the Customer-Generator; however, if the Customer-Generator receives a solar rebate the Customer-Generator transfers to Company all right, title, and interest in and to the RECs associated with the new or expanded solar electric system that qualified the Customer-Generator for the solar rebate for a period of ten (10) years from the date Company confirms the solar electric system was installed and operational.

***5. Energy Pricing and Billing**

The net electric energy delivered to the Customer-Generator shall be billed in accordance with the Company's applicable Rate Schedule No. 6, Schedule of Rates for Electricity. The value of the net electric energy delivered by the Customer-Generator to Company shall be credited in accordance with the net metering rate contained in Company's Electric Power Purchases From Qualified Net Metering Units tariff. The Customer-Generator shall be responsible for all other bill components charged to similarly situated customers that are not Customer-Generators.

Net electrical energy measurement shall be calculated in the following manner:

a. For a Customer-Generator, a retail electric supplier shall measure the net electrical energy produced or consumed during the billing period in accordance with normal metering practices for customers in the same rate class, either by employing a single, bidirectional meter that measures the amount of electrical energy produced and consumed, or by employing multiple meters that separately measure the Customer-Generator's consumption and production of electricity;

b. If the electricity supplied by the supplier exceeds the electricity generated by the Customer-Generator during a billing period, the Customer-Generator shall be billed for the net electricity supplied by the supplier in accordance with normal practices for customers in the same rate class;

c. If the electricity generated by the Customer-Generator exceeds the electricity supplied by the supplier during a billing period, the Customer-Generator shall be billed for the appropriate customer charges as specified by the applicable Customer-Generator rate schedule for that billing period and shall be credited an amount for the excess kilowatt-hours generated during the billing period at the net metering rate identified in Company's tariff filed at the Public Service Commission, with this credit applied to the following billing period; and

d. Any credits granted by this subsection shall expire without any compensation at the earlier of either twelve (12) months after their issuance, or when the Customer-Generator disconnects service or terminates the net metering relationship with the supplier.

* Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

D. Additional Terms and Conditions (Cont'd.)

***6. Terms and Termination Rights**

This Agreement becomes effective when signed by both the Customer-Generator and Company, and shall continue in effect until terminated. After fulfillment of any applicable initial tariff or rate schedule term, the Customer-Generator may terminate this Agreement at any time by giving Company at least thirty (30) days prior written notice. In such event, the Customer-Generator shall, no later than the date of termination of Agreement, completely disconnect the Customer-Generator's 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-Generator 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 Customer-Generator's System transfers to any other party than the Customer-Generator, a new Application/Agreement must be completed by the person or persons taking over operational control of the existing Customer-Generator System. Company shall be notified no less than thirty (30) days before the Customer-Generator anticipates transfer of operational control of the Customer-Generator's System. The person or persons taking over operational control of Customer-Generator's System must file a new Application/Agreement, and must receive authorization from Company, before the existing Customer-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 Customer-Generator System completely understand the provisions of this Application/Agreement and agrees to them. If no changes are being made to the Customer-Generator's System, completing sections A, D and F of this Application/Agreement will satisfy this requirement. If no changes are being proposed to the Customer-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-Generator has satisfactorily completed the Application/Agreement, and no changes are being proposed to the existing Customer-Generator System. Company will then complete section G and forward a copy of the completed Application/Agreement back to the new Customer-Generator, thereby notifying the new Customer-Generator that the new Customer-Generator is authorized to operate the existing Customer-Generator System in parallel with Company's electrical system. If any changes are planned to be made to the existing Customer-Generator System that in any way may degrade or significantly alter that System's output characteristics, then the Customer-Generator shall submit to Company a new Application/Agreement for the entire Customer-Generator System and all portions of the Application/Agreement must be completed.

* Indicates Reissue

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

D. Additional Terms and Conditions (Cont'd.)

***8. Dispute Resolution**

If any disagreements between the Customer-Generator 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.

***9. Testing Requirement**

IEEE 1547 requires periodic testing of all interconnection related protective functions. The Customer-Generator must, at least once every year, conduct a test to confirm that the Customer-Generator's net metering unit 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 net metering unit 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-Generator 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-Generator is unable to provide a copy of the test results upon request, Company shall notify the Customer-Generator by mail that Customer-Generator has thirty (30) days from the date the Customer-Generator receives the request to provide to Company, the results of a test. If the Customer-Generator's equipment ever fails this test, the Customer-Generator shall immediately disconnect the Customer-Generator's System from Company's system. If the Customer-Generator 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-Generator's net metering unit is not functioning correctly, Company may immediately disconnect the Customer-Generator's System from Company's system. The Customer-Generator's System shall not be reconnected to Company's electrical system by the Customer- Generator until the Customer-Generator's 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 9 of this Application/Agreement.

Signed (Customer-Generator): _____ Date: _____

*Indicates Reissue **Indicates Addition

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 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 Customer-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-Generator Acknowledgement

I am aware of the Customer-Generator System installed on my premises and I have been given warranty information and/or an operational manual for that system. Also, I have been provided with a copy of Company's parallel generation tariff or rate schedule (as applicable) and interconnection requirements. I am familiar with the operation of the Customer-Generator System.

I agree to abide by the terms of this Application/Agreement and I agree to operate and maintain the Customer-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 Customer-Generator System is operating in an unusual manner that may result in any disturbances on Company's electrical system, I shall disconnect the Customer-Generator System and not reconnect it to Company's electrical system until the Customer-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 Customer-Generator System that in any way may degrade or significantly alter that 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 Customer-Generator System in parallel with Company's electrical system until this Application/Agreement has been approved by Company.

System Installation Date: _____

Printed Name (Customer-Generator): _____

Signed (Customer-Generator): _____ Date: _____

*Indicates Change

**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-Generator's System or the Customer-Generator's negligence.

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

Company Representative Name (print): _____

Signed Company Representative: _____

*Indicates Reissue

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

*H. Solar Rebate (For Solar Installations only)

Solar Module Manufacturer: _____ Inverter Rating: _____kW

Solar Module Model No.: _____ Number of Modules/Panels: _____

Module Rating: _____DC Watts System Rating (sum of solar panels): _____kW

Module Warranty: _____ years (circle on spec. sheet)

Inverter Warranty: _____years (circle on spec. sheet)

Location of modules: _____Roof ____Ground

Installation type: ____Fixed _____Ballast

Solar system must be permanently installed on the applicant's premises for a valid application

Required documents to receive solar rebate to be attached or provided before Company authorizes payment:

Copies of detail receipts/invoices with purchase date circled
Copies of detail spec sheets on each component
Copies of proof of warranty sheet (minimum of 10 year warranty)
Photo(s) of completed system
Completed Taxpayer Information Form

*Indicates Change

INTERCONNECTION APPLICATION/AGREEMENT FOR NET METERING SYSTEMS WITH CAPACITY OF 100 kW OR LESS – (Cont'd.)

*I. Solar Rebate Declaration (For Solar Installations only)

I understand that the complete terms and conditions of the solar rebate program are included in Company's Rider SR – Solar Rebate tariff.

I understand that this program has a limited budget, and that application will be accepted on a first-come, first-served basis, while funds are available. It is possible that I may be notified I have been placed on a waiting list for the next year's rebate program if funds run out for the current year. This program may be modified or discontinued at any time without notice from Company.

I understand that the solar system must be permanently installed and remain in place on premises for a minimum of ten (10) years, and the system shall be situated in a location where a minimum of eighty-five percent (85%) of the solar resource is available to the system.

I understand the equipment must be new when installed, commercially available, and carry a minimum ten (10) year warranty.

I understand a rebate may be available from Company in the amount of:

$2.00 per watt for systems operational on or before June 30, 2014;

$1.50 per watt for systems operational between July 1, 2014 and June 30, 2015;

$1.00 per watt for systems operational between July 1, 2015 and June 30, 2016;

$0.50 per watt for systems operational between July 1, 2016 and June 30, 2019;

$0.25 per watt for systems operational between July 1, 2019 and June 30, 2020;

Additional details and requirements regarding the solar rebate can be found in Company's Rider SR – Solar Rebate at www.ameren.com.

I understand the DC wattage rating provided by the original manufacturer and as noted in section H will be used to determine rebate amount.

I understand I may receive an IRS Form related to my rebate amount. (Please consult your tax advisor with any questions.)

I understand that as a condition of receiving a solar rebate, I am transferring to Company all right, title and interest in and to the solar renewable energy credits (SRECs) associated with the new or expanded System **for a period of ten (10) years** from the date Company confirmed that the System was installed and operational, and during this period, I may not claim credit for the SRECs under any environmental program or transfer or sell the SRECs to any other party.

The undersigned warrants, certifies, and represents that the information provided in this form is true and correct to the best of my knowledge; and the installation meets all Missouri Net Metering and Solar Electric Rebate program requirements.

_____	_____
Applicant's Signature	Installer's Signature
_____	_____
Print Solar Rebate Applicant's Name	Print Installer's Name

*Indicates Change

RIDER SR

SOLAR REBATE

PURPOSE

The purpose of this Rider SR is to implement the solar rebate established through §393.1030 RSMo and to establish the terms, conditions and procedures which the Company will rely on in accepting rebate applications and authorizing rebate payments to eligible participants for a qualifying solar electric system.

*AVAILABILITY

The Company will not suspend payment of solar rebates in 2014 and beyond until the solar rebate payments reach an aggregate level of $91.9 million (the "specified level") incurred subsequent to July 31, 2012 as defined in the Non-Unanimous Stipulation and Agreement approved by the Missouri Public Service Commission ("Commission") in File Number ET-2014-0085 ("Stipulation"). Solar rebate payments are anticipated to reach the specified level during 2014. The Company has filed with the Commission an application under the 60-day process as outlined in §393.1030.3 RSMo. to cease payments when the specified level is reached and all future calendar years, in accordance with the approved Stipulation, and the Commission has determined that the the maximum average retail rate increase, as specified in §393.1030.3 RSMo., will be reached when the specified level of payments has been made. Ameren Missouri solar rebate funds are no longer available for new applicants. However, if you submitted an application in December 2013 you are in the rebate commitment queue. Details concerning the current payment levels are posted on the Company's website at www.ameren.com.

All retail customers (customer) of Company are eligible for the solar rebate with the following limitations and conditions:

1. The customer must be an active account on the Company's system and in good payment standing.
2. The System must be permanently installed on the customer's premise.
3. The customer must declare the installed System will remain in place on the account holder's premise for a minimum of ten (10) years.
4. The solar modules and inverters shall be new equipment and include a manufacturer's warranty of ten (10) years.
5. No retail electric account will be eligible for a solar rebate for more than twenty-five kilowatts (25 kW) of new or expanded capacity irrespective of the number of meters/service points associated with the account.
6. The System or expansion of an existing System must not become operational until after December 31, 2009 and must become operational on or before June 30, 2020.
7. The System shall meet all requirements of 4 CSR 240-20.065 and Company's Electric Power Purchases from Qualified Net Metering Units tariff.

*Indicates Change

RIDER SR

SOLAR REBATE (Cont'd.)

***AVAILABILITY (Cont'd.)**

8. The System must be situated in a location where a minimum of eighty-five percent (85%) of the solar resource is available to the System.

DEFINITIONS

Application Requirements – All Net Metering Application and Solar Rebate Application information necessary to receive an approval from Company as defined on Company's website www.ameren.com provided to Company including but not limited to accurate account number, name and service address matching customer billing information, all of the Net Metering Application, all fields of Solar Rebate Application except the "System Installation Date," customer and developer signatures, System plans, specifications, warrenties and wiring diagram.

Completion Requirements – All System installation and final documentation requirements as defined on Company's website www.ameren.com provided to Company including but not limited to the System installation date, all required signatures, approval of the local inspection authority having jurisdiction (if applicable), copies of detailed receipts and invoices, System photo(s), taxpayer information form and affidavit (if applicable).

Net Metering Application – Section A. through Section D. of a "Interconnection Application/Agreement for Net Metering Systems with a Capacity of 100 kW or Less" which can be obtained from Company's website www.ameren.com.

Operational Date – The date that the Company installs a bi-directional meter and permits parallel operation of the System with Company's electrical distribution system in accordance with Company's "Electric Power Purchases From Qualified Net Metering Units" tariff.

Qualification Date – The date that determines a customer's relative position in the Reservation Queue.

Rebate Commitment – Company's written communication to customer, by letter or email, confirming that solar rebate funding is available for a Solar Rebate Application submitted by customer.

Reservation Queue – The list of all complete Net Metering Applications that have been received by Company which have not expired and have not been paid a Solar Rebate.

Solar Rebate Application – Sections H. and I. of a "Interconnection Application/Agreement for Net Metering Systems with a Capacity of 100 kW or Less" which can be obtained from Company's website www.ameren.com.

System – Qualifying solar electric system

*Indicates Reissue

RIDER SR

SOLAR REBATE (Cont'd.)

*QUALIFICATION DATE AND REBATE COMMITMENT

The Qualification Date will be the date Company receives a Net Metering Application and Solar Rebate Application, or the date that is postmarked if delivered by the U.S. Postal Service, that satisfy the Application Requirements and are subsequently approved by Company.

Company will only make a Rebate Commitment to a customer that has a Qualification Date and the customer, and their developer, will be notifed in writing, by letter or email, of any deficiencies in the Application Requirements that will prevent a Rebate Commitment by Company.

Company’s Rebate Commitment to a customer will expire if:

1. The System has not attained an Operational Date within twelve (12) months of the Rebate Commitment date, or
2. The System is not constructed in accordance with the design submitted by the customer and approved by Company, thereby causing the Net Metering Application to become invalid.

If a customer has satisfied all of the Completion Requirements but the Company is not able to complete all of the Company’s steps needed to establish an Operational Date by the expiration of the Rebate Commitment, the Rebate Rate will be determined as though the Operational Date was achieved prior to the expiration. If it is subsequently determined that the customer or the System did not satisfy all Completion Requirements required of the customer on or before the expiration date, the Rebate Commitment will expire and no payment will be made.

*Indicates Change

RIDER SR

SOLAR REBATE (Cont'd.)

*REBATE PAYMENT

The amount of the rebate will be the combined direct current (DC) rating of the solar module(s) in watts from the manufacturer's specification sheet(s) for the new System or the current expansion of an existing System multiplied by the rebate rate as determined by the Rebate Rate Schedule provisions of this Rider SR.

A rebate payment will be made within thirty (30) days of the Operational Date provided that:

1. A complete and accurate Solar Rebate Application has been accepted by Company and a Rebate Commitment made by Company, and
2. Customer has satisfied all Completion Requirements, and
3. An "Interconnection Application/Agreement for Net Metering Systems with a Capacity of 100 kW or Less"has been executed by the customer and Company.

SOLAR RENEWABLE ENERGY CREDITS (SREC'S)

On and after August 28, 2013, as a condition of receiving a solar rebate, customer shall transfer to Company all right, title and interest in and to the solar renewable energy credits ("SRECs") associated with the new or expanded System that qualified customer for the solar rebate for a period of ten (10) years from the date Company confirmed that the System was installed and operational.

Rebate payments made by Company prior to August 28, 2013, do not entitle Company to any right, title and interest in the SRECs produced by the portion of the System for which the rebate payment was made.

SRECs produced by the System, for which a rebate is received, cannot be sold or promised for sale to any other party by customer or used by customer for any environmental or "green" program for a period of ten (10) years from the date Company confirmed that the System was installed and operational.

The number of SRECs produced annually will be determined by Company using PVWatts software developed by the U.S. Department of Energy (DOE) with the result rounded to the tenths digit.

*Indicates Change

RIDER SR

SOLAR REBATE (Cont'd.)

*REBATE PAYMENT

The amount of the rebate will be the combined direct current (DC) rating of the solar module(s) in watts from the manufacturer's specification sheet(s) for the new System or the current expansion of an existing System multiplied by the rebate rate as determined by the Rebate Rate Schedule provisions of this Rider SR.

A rebate payment will not be issued until:

1. A complete and accurate Solar Rebate Application has been accepted by Company and a Rebate Commitment made by Company, and
2. Customer has satisfied all Completion Requirements, and
3. An "Interconnection Application/Agreement for Net Metering Systems with a Capacity of 100 kW or Less"has been executed by the customer and Company, and
4. The System is operational.

*SOLAR RENEWABLE ENERGY CREDITS (SREC'S)

On and after August 28, 2013, as a condition of receiving a solar rebate, customer shall transfer to Company all right, title and interest in and to the solar renewable energy credits ("SRECs") associated with the new or expanded System that qualified customer for the solar rebate for a period of ten (10) years from the date Company confirmed that the System was installed and operational.

Rebate payments made by Company prior to August 28, 2013, do not entitle Company to any right, title and interest in the SRECs produced by the portion of the System for which the rebate payment was made.

SRECs produced by the System, for which a rebate is received, cannot be sold or promised for sale to any other party by customer or used by customer for any environmental or "green" program for a period of ten (10) years from the date Company confirmed that the System was installed and operational.

The number of SRECs produced annually will be determined by Company using PVWatts software developed by the U.S. Department of Energy (DOE) with the result rounded to the tenths digit.

*Indicates Change

Solar Energy
- O'Fallon Renewable Energy Center
- Ameren Solar Project
- Private Solar Credits
- Clean Energy

Private Solar Credits

Customer-owned Generation

Notifications | Solar Rebate | System Size | Application Requirements | Completion Requirements | Applicable Meter | Economics

Ameren Missouri solar rebate funds are no longer available for new applicants. However, if you submitted an application in December 2013 and are in the rebate commitment queue, you will find detailed information below.

The 2008 Proposition C Missouri Solar Rebate funds are fully subscribed to the $91.9 million funding level. There currently are no cash rebates for new Missouri Net Metering applications available through Ameren Missouri. Net Metering benefits remain available for all renewable generation of 100 kW or less.

- The $0.50 per watt solar rebate is in effect as of July 1, 2016 through June 30, 2019. You are only eligible to receive the $0.50 per watt solar rebate if:
  - You received a rebate commitment letter from Ameren Missouri
  - Your solar installation is fully installed and completed within one year of the date on your solar rebate commitment letter

- The deadline for submitting Completion Requirements paperwork to be eligible for the **$1.00 per watt** solar rebate was June 30, 2016 for customers whose applications were received by Ameren December 31, 2013, and were approved for installation and the solar rebate.

Rebate Queue Chart

Residential Meter Socket Change Information Recent

Completion Requirements (if eligible for rebate)

Net metering (effective 12/22/2013)

A customer who has received a solar rebate commitment letter is eligible for the $0.50 per watt solar rebate in effect as of July 1, 2016 through June 30, 2019 and must meet all installation and final documentation requirements listed below. To receive the rebate, these requirements must be completed **within one year** of the date on your solar rebate commitment letter.

1. The customer has completed the installation of all equipment, and
2. The following items have been provided to Ameren Missouri:

- Section E has been completed and signed by a Licensed Missouri Electrician or Engineer
- The "System Installation Date" of Section H is completed (if not eligible for rebate, this is not required)
- Section F has been signed by the Ameren Missouri customer of record
- The local inspection authority having jurisdiction (AHJ) has approved the installation/wiring (if applicable)
- Copies of detailed receipts/invoices with purchase date circled (if not eligible for rebate, this is not required)
- Photo(s) of completed system (if not eligible for rebate, this is not required)
- **Taxpayer Information Form** must be completed and attached (if not eligible for rebate, this is not required)

PLEASE NOTE: You have one year from the **rebate commitment date (if applicable) or design approval date (if no rebate available)** to install the PV system. The approved Missouri Net Metering application expires after 12 months.

**These web pages do not reflect tariff changes that became effective 4/12/2017

Failure to satisfy Completion Requirements within 12 months of rebate commitment will result in a solar rebate of $0.

When the customer has satisfactorily completed all installation and final documentation requirements, Ameren Missouri will install a bi-directional meter. If any deficiencies are found that prevent the bi-directional meter from being installed and those deficiencies are not corrected within one year of the solar rebate commitment letter, the customer's solar rebate may be denied.
The system becomes operational upon installation of the bi-directional meter and the solar rebate payment will be made within 30 days of that date.

Status of Solar Rebate Reservation Queue

At this time, Ameren Missouri's solar rebate program is fully subscribed to the $91.9 million funding level. Ameren Missouri does not anticipate making any additional funding available although solar rebate payments will not be suspended until the funding level has been fully paid.

A reservation and queue system for solar rebates has been established based on the order that applications were received. Find the latest information regarding the **Solar Rebate Queue Status** online.

Applications that have not received a written rebate commitment have been placed in the queue and may only receive a rebate commitment if rebate funds become available due to cancellation or expirations.

For more detail on the solar rebate and reservation and queue system, refer to **Rider SR - Solar Rebate tariff**.

Revising a Net Metering Application Eligible for Rebate

There may be times when a net metering application needs to be revised. Revisions might result from clarifications requested by Ameren Missouri during the approval process or as a result of unforeseen problems that occur either with procuring the equipment specified or with physical construction constraints. Net metering and solar rebate applications can be revised to reflect changes without causing the application to be rejected and the customer losing their Qualification Date except:

- The system capacity cannot exceed the maximum allowable sizing
- The application cannot be transferred to a different developer*

In cases where the capacity of the solar system increases, the rebate will be determined based on the original system capacity that was submitted.

Any changes in the net metering design will need to be submitted to and approved by Ameren Missouri.

*If Your Solar Installer Goes Out of Business or Releases Your Installation Agreement (applies only if you are eligible for rebate)

- Provide Ameren Missouri Renewables with proof that the installer is no longer in business. Provide the contact information and details about the new installer handling your PV installation.
- Provide Ameren Missouri Renewables with an email or letter from the previous PV installer releasing you from the installation agreement. Provide the contact information and details about the new installer handling your PV installation.

**These web pages do not reflect tariff changes that became effective 4/12/2017

Solar Energy
- O'Fallon Renewable Energy Center
- Ameren Solar Project
- Private Solar Credits
- Clean Energy

Private Solar Credits

Customer-owned Generation

Notifications | Solar Rebate | System Size | Application Requirements | Completion Requirements | Applicable Meter | Economics

Your Solar System Size (Effective 2/15/2016)

- Upon receipt of a completed solar Net Metering Application on an existing account, the maximum allowable nameplate capacity (system size in kW DC) is calculated based on your historical usage to determine if the solar nameplate capacity submitted in the application is equal to or less than the maximum allowable. If the submitted capacity is greater than your usage, we will contact and advise you as to the maximum allowable nameplate capacity. The application will then be on hold until a revised application and one-line have been received with a nameplate capacity within the maximum allowable capacity.

- If a customer account has a single revenue meter, you can estimate your maximum allowable solar nameplate capacity as follows:

  Most recent 12 billing month load kWh/(8,760 hrs. x 15.6% Capacity Factor) = Maximum Allowable Nameplate Capacity in kW DC

  Example:

  Previous 12 month load = 13,512 kWh
  Hours in a year = 8,760 hours
  Solar Capacity Factor = 15.6% (based on DOE PV Watts)

  Maximum Allowable Nameplate Capacity = 13,512/(8,760 x 0.156) = 9.887 kW

  Please note, this formula should be used only as an estimate. Upon receipt of a Net Metering Application, Ameren Missouri will evaluate the account and calculate the maximum based on the **most recent 12 month usage**. After Ameren sends the design approval notification, the customer has 1 (one) year to complete the installation and finalize the executed Net Metering Agreement. If the installation has not been completed during this period, Ameren requires recalculation of the maximum allowable nameplate.

- In addition to the account maximum allowable nameplate capacity limit, to qualify for net metering, installation agreements cannot exceed 100 kW nameplate capacity.

- For residential new construction, please contact Ameren Renewables with your new home's square footage (living space only – minus garage and basement even if finished) to obtain your maximum solar nameplate capacity.

- For commercial new construction, please complete the **Commercial Load Sheet** and send to Ameren Renewables to obtain your maximum solar nameplate capacity.

- If adding panels to an existing solar system, the solar system must still be within the maximum allowable nameplate capacity.

Solar Energy
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Private Solar Credits

Customer-owned Generation

Notifications | Solar Rebate | System Size | Application Requirements | Completion Requirements | Applicable Meter | Economics

Application Process for Your Solar Project

Ameren Missouri must review your renewable project before operation/installation to determine whether the renewable system could adversely affect the safety, reliability or quality of the local electric utility service. See the **Ameren Service Manual** for technical requirements reference. Also see recent **Residential Meter Socket Change Information**.

Please refer to **Net Metering Application/Agreement** when completing the application steps.

Click here to view the complete **Net Metering Tariff** (which includes prices for excess energy).

All Net Metering Applications submitted after August 28, 2013 MUST be on the current tariff application forms (bottom right hand corner of sheets No. 171.6, 171.9-171.12 and 171.14-171.15, date effective August 28, 2013).

Adding Additional Solar Panels

If you are adding panels to your existing solar system, you need to complete the Missouri Net Metering application requirements again. Be sure to clearly label the existing equipment and the "new" equipment on the new one-line wiring diagram. Also include specification sheets for "new" equipment being added.

Application Requirements

- **Submit** Sections A - D (Sheets No. 171.7-171.12). Checklist by section provided below:

Section

A. Customer-Generator's Information (complete all fields)

This section is exclusively information about the Ameren Missouri customer.

- ☐ Please include email address (this is our primary way of communicating with you)*
- ☐ Company Account No., Name and Service Address fields must match the Ameren Missouri electric bill.

B. Customer-Generator's System Information (complete all fields)

- ☐ Generator should be sized to offset part or all of customer's own electrical energy requirements (not larger than property's electrical requirements)
- ☐ Components must be either UL or IEEE certified
- ☐ Specific location or inverter/interconnection equipment
- ☐ Required AC disconnect switch located within 10' of the utility meter and is visible and accessible to Ameren Missouri personnel at all times. If AC disconnect is further than 10', Ameren approval is required and if Ameren approves the exception specific location on weather-proof placard must be permanently affixed to the utility meter.

C. Installation Information/Hardware and Installation Compliance (complete all fields)

- ☐ Please include email address (this is our primary way of communicating with you)*
- ☐ Installer's signature required (Sheet No. 171.8)

D. Additional Terms and Conditions

- ☐ Customer's signature required (Sheet No. 171.12)

- **Submit** one-line wiring diagram

  One-line wiring diagram (8 1/2" x 11" legible document required) should show wiring from renewable system to the utility service - **Samples**

  Indicate specific location of each component:

  - ☐ Renewable system (solar or wind turbine)
  - ☐ All disconnect switches (required AC disconnect switch located near the utility meter and is visible and accessible to Ameren Missouri personnel at all times) note on drawing specifically where this disconnect is located. Please be very specific. Must be within 10' of the electric billing meter. If not, state specific reason why it is not for the review/approval process.
  - ☐ Inverter(s)
  - ☐ Main panel
  - ☐ Bi-directional meter
  - ☐ Incoming utility service

- **Submit** specification sheets for each component
  - ☐ Solar panel spec sheets or wind turbine specification sheets
  - ☐ Inverter specification sheets

Ameren Missouri reviews net metering application system designs and replies to the customer within 30 days (10 kilowatt (kW) and below systems) or 90 days (11 kW - 100 kW systems).

If the system design is approved, Ameren Missouri will email the customer and installer (if applicable) a design approval letter. After the letter is received, the customer can proceed with system installation.

If more information is needed from the customer, Ameren Missouri contacts the customer via email, phone or U.S. mail to request the specific information. When this information is received, and if the information is completed for system design approval, the design approval letter should be received within 30 days of receipt or requested information via email.

- **Mail** original completed Sections A-D, one-line drawing for renewable system and specification sheets for inverter and solar panels or wind turbine to:

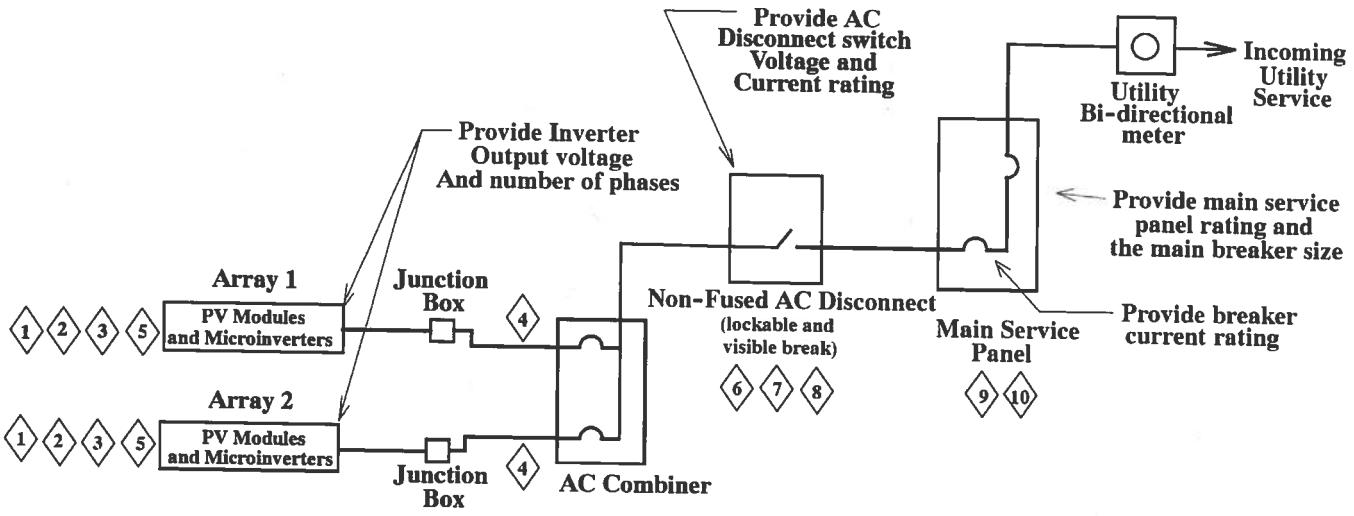
  Ameren Missouri
  Renewables
  1901 Chouteau Avenue
  MC 1450
  Saint Louis, MO 63103

- **Email**

  Mhenry@ameren.com

*If your email address changes, please notify Ameren Missouri Renewables with the updated information.

PV System One-Line Diagram - Distribution Panel Connection



General notes:

A. Equipment shall be designed and installed according to Authority Having Jurisdiction (AHJ). If no AHJ, design and installation must meet requirements of NEC.

B. When a standby generator is present, the connection of standby generator and transfer switch must be included in the one-line diagram.

C. All system elements from the bi-directional meter to the solar panels and customer's service panels should be shown and sized on the wiring diagram including any step-down transformers.

D. If there are multiple main service panels, the drawing should show the size of the panel that the solar system will be connected to. However, the service size in the net metering application is the sum of all main service panels.

E. If existing meter is a K-base (bolt in) type three-phase meter, the meter enclosure may need to be replaced with instrument transformer metering or a 320 amp meter base. A CT/PT enclosure, CT enclosure or 320 amp meter base is required for the following service types:

   a. 277/480 volt, 3 phase, 4 wire greater than 200 amp (CT/PT Enclosure)
   b. 480 volt, 3 phase, 3 wire greater than 200 amp (CT/PT Enclosure)
   c. 120/208 volt, 3 phase, 4 wire greater than 400 amps (CT Enclosure)
   d. 240 volt, 3 phase, 3 wire greater than 400 amps (CT Enclosure)
   e. 120/208 volt, 3 phase, 4 wire greater than 200 amp but less than 400 amps (320 amp meter base with a 2 terminal clamp jaw socket)
   f. 240 volt, 3 phase, 3 wire greater than 200 amps but less than 400 amps (320 amp meter base with a 5 terminal clamp jaw socket)

Key notes:

1. Photovoltaic solar cell array open circuit voltage cannot exceed the inverter maximum DC voltage input.
2. Inverters must comply with IEEE 1547 and UL 1741.
3. Inverter specified must match the existing service type except in cases where a step-down transformer exists. If service is 3-phase, inverters must be connected 3-phase.
4. Separate inverters are also acceptable. In this case, the number of PV strings and the number of modules per string must be shown on the drawing.
5. Balanced generation must be maintained on three-phase service. Show the generation (kW) per phase on the drawing.
6. A lockable and visible break AC disconnect switch is required between the AC combiner or inverter(s) and the main panel. It must be accessible to Ameren Missouri personnel at all times.
7. The AC disconnect switch should be located within 10 feet and in sight of the service revenue meter. If this is not feasible, provide the reason in your application. On a submitted drawing, provide the wording to be placed on a placard describing the disconnect location. The placard must be placed on the meter base cover.
8. The AC disconnect switch must be located outside. Exceptions may be granted upon Ameren approval. Justifications for inside location must be provided.

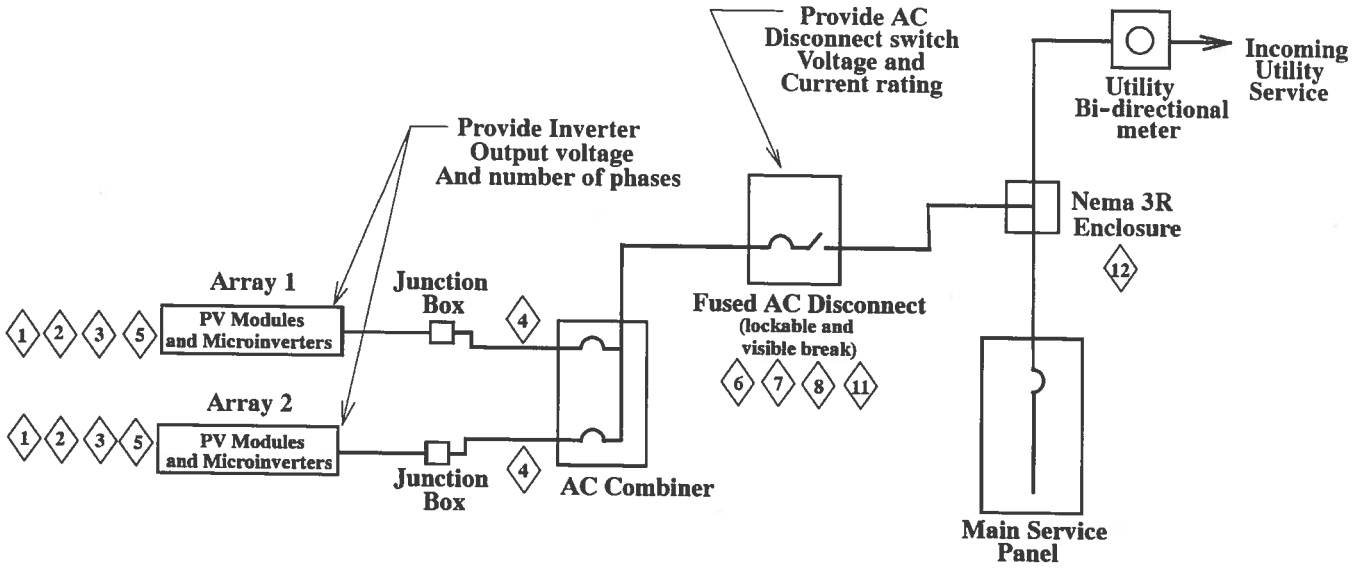
Notes applicable only to distribution panel connections:

9. Per NEC requirements, to prevent distribution panel bus overload, the connected generation cannot exceed 20% of the service panel rating.
10. There must be a feeder breaker or fuse supplying the inverter which can interrupt maximum short circuit current and carry maximum generation sized per AHJ or NEC requirements.

Notes applicable only to tap connections:

11. The PV system tap must have short circuit protection (fuse or circuit breaker) located within 4ft. of the tap. The breaker or fuse supplying the inverter must be rated to carry maximum generation and interrupt maximum short circuit current.
12. The PV system tap should be made within a type NEMA 3R enclosure. The PV system tap cannot be made in a 200 amp meter base, and can only be made in a 320 amp meter base if there will be no more than 2 lugs per leg/phase. We do allow a tap in the CT enclosure provided the additional lug will not exceed CT manufacturer requirements. Ameren must be contacted to provide access.

PV System One-Line Diagram – Service Tap Connection



General notes:

A. Equipment shall be designed and installed according to Authority Having Jurisdiction (AHJ). If no AHJ, design and installation must meet requirements of NEC.

B. When a standby generator is present, the connection of standby generator and transfer switch must be included in the one-line diagram.

C. All system elements from the bi-directional meter to the solar panels and customer's service panels should be shown and sized on the wiring diagram including any step-down transformers.

D. If there are multiple main service panels, the drawing should show the size of the panel that the solar system will be connected to. However, the service size in the net metering application is the sum of all main service panels.

E. If existing meter is a K-base (bolt in) type three-phase meter, the meter enclosure may need to be replaced with instrument transformer metering or a 320 amp meter base. A CT/PT enclosure, CT enclosure or 320 amp meter base is required for the following service types:

   a. 277/480 volt, 3 phase, 4 wire greater than 200 amp (CT/PT Enclosure)
   b. 480 volt, 3 phase, 3 wire greater than 200 amp (CT/PT Enclosure)
   c. 120/208 volt, 3 phase, 4 wire greater than 400 amps (CT Enclosure)
   d. 240 volt, 3 phase, 3 wire greater than 400 amps (CT Enclosure)
   e. 120/208 volt, 3 phase, 4 wire greater than 200 amp but less than 400 amps (320 amp meter base with a 2 terminal clamp jaw socket)
   f. 240 volt, 3 phase, 3 wire greater than 200 amps but less than 400 amps (320 amp meter base with a 5 terminal clamp jaw socket)

Key notes:

1. Photovoltaic solar cell array open circuit voltage cannot exceed the inverter maximum DC voltage input.
2. Inverters must comply with IEEE 1547 and UL 1741.
3. Inverter specified must match the existing service type except in cases where a step-down transformer exists. If service is 3-phase, inverters must be connected 3-phase.
4. Separate inverters are also acceptable. In this case, the number of PV strings and the number of modules per string must be shown on the drawing.
5. Balanced generation must be maintained on three-phase service. Show the generation (kW) per phase on the drawing.
6. A lockable and visible break AC disconnect switch is required between the AC combiner or inverter(s) and the main panel. It must be accessible to Ameren Missouri personnel at all times.
7. The AC disconnect switch should be located within 10 feet and in sight of the service revenue meter. If this is not feasible, provide the reason in your application. On a submitted drawing, provide the wording to be placed on a placard describing the disconnect location. The placard must be placed on the meter base cover.
8. The AC disconnect switch must be located outside. Exceptions may be granted upon Ameren approval. Justifications for inside location must be provided.

Notes applicable only to distribution panel connections:

9. Per NEC requirements, to prevent distribution panel bus overload, the connected generation cannot exceed 20% of the service panel rating.
10. There must be a feeder breaker or fuse supplying the inverter which can interrupt maximum short circuit current and carry maximum generation sized per AHJ or NEC requirements.

Notes applicable only to tap connections:

11. The PV system tap must have short circuit protection (fuse or circuit breaker) located within 4ft. of the tap. The breaker or fuse supplying the inverter must be rated to carry maximum generation and interrupt maximum short circuit current.
12. The PV system tap should be made within a type NEMA 3R enclosure. The PV system tap cannot be made in a 200 amp meter base, and can only be made in a 320 amp meter base if there will be no more than 2 lugs per leg/phase. We do allow a tap in the CT enclosure provided the additional lug will not exceed CT manufacturer requirements. Ameren must be contacted to provide access.

Solar Energy
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- Ameren Solar Project
- Private Solar Credits
- Clean Energy

Private Solar Credits

Customer-owned Generation

Notifications | Solar Rebate | System Size | Application Requirements | Completion Requirements | Applicable Meter | Economics

Completion Requirements for Your Solar Project

Complete these requirements after Sections A - D have been approved by Ameren Missouri and your system is installed.

Please refer to **Net Metering Application/Agreement** when completing the application steps.

View the complete **Net Metering Tariff** (which includes prices for excess energy).

All Net Metering Applications submitted after August 28, 2013 MUST be on the current tariff application forms (bottom right hand corner of sheets No. 171.6, 171.9-171.12 and 171.14-171.15, date effective August 28, 2013).

Completion Requirements

- **Submit** Sections E - F. Please write the account number on the top right corner of the page to prevent delays in processing. Checklist by section provided below:

Section

E. **Electrical Inspection** (Sheets No. 171.13)

This customer's generation system has been installed:

If a local Authority Having Jurisdiction (AHJ) exists, then the permit number needs to be included in Section E and the inspection certification forwarded to Ameren Missouri.

NOTE: The AHJ is associated with the municipality and is not the Missouri licensed engineer or electrician. Not all municipalities have this requirement. However, if it is required, Ameren requires the approved inspection. The meter will not be installed until this document is received.

A Missouri licensed engineer or electrician inspects the system to ensure all requirements in Section C (Application Requirements) are satisfied. **This step is required for all solar installations.**

☐ Licensed engineer or licensed Missouri electrician signature required.

F. **Customer - Generator Acknowledgement** (Sheets No. 171.13)

☐ Customer signature required

- **Mail** original completed Sections E - F to:

Ameren Missouri
Renewables
1901 Chouteau Avenue
MC 1450
Saint Louis, MO 63103

or

E-mail
Mhenry@ameren.com

Bi-Directional Meter

After receiving completed Sections E-F and the approved inspection certificate (if applicable), Ameren Missouri will schedule installation of a bi-directional meter. This typically takes 21 days or less from the date Ameren Missouri receives all required completion paperwork for the bi-directional meter to be installed. You will know the bi-directional meter has been installed when you see a red sticker that states “Warning Alternative Generation Source.” You may begin operating your generation system at that time.

A one-time charge for the bi-directional meter and any required work will appear on your Ameren Missouri bill by the next billing cycle. The charge is quoted in the design approval letter.

Your Ameren Missouri bill will reflect net metering from the day the bi-directional meter has been installed.

A bi-directional meter only records billing data. It does not record the total amount of energy produced by the renewable system. Only kilowatt-hour (kWh) fed back to the grid and kWh delivered by Ameren Missouri will register on the bi-directional meter.

If the system is producing power and the property is using the power simultaneously, the bi-directional meter does not record the produced or used power - essentially they cancel each other out.

Optional monitoring systems are available to measure all energy produced by the generator. Talk with your installer for more information on this option.

G. Application Approval (completed by Ameren only)
Once completed Sections A - F have been received by Ameren Missouri and the bi-directional meter has been installed, Ameren Missouri executes Section G.

IMPORTANT If modifications to the current system are made at any time, it is your obligation (according to the net metering terms) to notify Ameren Missouri and update/re-file your net metering application/agreement.

IMPORTANT If the name changes on the Ameren Missouri account (e.g., property sold, new tenant), the new customer will need to file a net metering application/agreement with Ameren Missouri in their name within 30 days. See Sheet No. 171.6 of the Missouri Net Metering Application for details.

If you have application questions, contact Ameren Missouri Renewables at 314.554.2649 or **lcosgrove@ameren.com**.

Solar Energy
- O'Fallon Renewable Energy Center
- Ameren Solar Project
- Private Solar Credits
- Clean Energy

Private Solar Credits

Customer-owned Generation

Notifications | Solar Rebate | System Size | Application Requirements | Completion Requirements | Applicable Meter | Economics

Applicable Meter for Your Solar Project

Bi-Directional Meter (7/1/2016)

The bi-directional meter relates directly to net metering and allows Ameren Missouri to record the amount of energy fed to Ameren Missouri's grid.

Typically, the one-time charge for the bi-directional meter is $320 for a 1-phase meter or $216 for a 3-phase meter. In some cases, more work is required than simply replacing the meter resulting in higher charges. Meter costs are subject to change. See recent **Residential Meter Socket Change Information**.

The cost of the bi-directional meter and any additional work required to support a net metering installation is quoted in the net metering application design approval letter/email that is sent to the customer and installer. The cost quoted will appear on your Ameren Missouri bill by the next billing cycle after the project is completed and the meter is installed.

You will know the bi-directional meter has been installed when you see a red sticker that states "Warning Alternative Generation Source" and Ameren Missouri sends you an email notification.

A bi-directional meter only records billing data. It does not record the total amount of energy produced by the renewable system. Only kilowatt-hour (kWh) fed back to the grid and kWh delivered by Ameren Missouri will register on the bi-directional meter. If the system is producing power and the property is using the power simultaneously, the bi-directional meter does not record the produced and used power - essentially they cancel each other out.

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Economics

When contemplating a solar installation for your home or business, consider the following during the planning process:

- **Initial Cost**
  Research and obtain several bids regarding the design, engineering, equipment and installation costs for a system that you will need.
- **Maintenance Cost**
  Consider the expenses related to the operation and maintenance of your system, including inspections, cleanings, insurance, etc.
- **Repair and Replacement Costs**
  Determine approximately how often you will need to repair or perhaps replace components of your solar energy system.
- **Cost of Producing Your Own Electricity**
  When performing a cost/benefit analysis, the cost of generating your own energy must be weighed against the cost of electricity provided by Ameren. Check the **net-metering** options and know the requirements before you begin your installation.

For more on estimating the performance and energy offsets of a solar energy system, use the **National Renewable Energy Laboratories (NREL) PV Watts calculator**.

Working with Developers

Installing a solar energy system for your home or business is a significant investment and modification to your existing electrical system. We recommend following a few simple steps for choosing and partnering with the best developer for your job.

- Choose a developer with a proven track record. Contact a professional association such as the **Missouri Solar Energy Industries Association** or the **Illinois Solar Energy Association**.
- Make sure that your prospective contractors are licensed and bonded.
- Ask for references from customers and contact the references to ask questions about their experience working with the installer.
- Check out contractors with the Better Business Bureau.
- Obtain several bids from various contractors and be sure to compare bids for variances such as whether a contractor will do all the work or hire subcontractors.
- Ask about warranties and guarantees with your new solar energy system.

Selling Back Power

If you are an Ameren Missouri customer who generates some or all of your energy, new metering allows you to send your excess generated energy to the Ameren grid. Learn more about **customer-owned generation**.

Federal Tax Deduction

You may be eligible for a federal tax deduction after installing a solar energy system. To learn more about this personal tax deduction for homeowners, visit the **IRS website**.

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For customers who have a rebate commitment completing their installations:

- The $0.50 per watt solar rebate is in effect as of July 1, 2016 through June 30, 2019. You are eligible to receive the $0.50 per watt solar rebate if:
  - You received a solar rebate commitment letter from Ameren Missouri
  - Your solar installation is fully installed and completed within one year of the date on your solar rebate commitment letter.
- The deadline for submitting the completion requirements to be eligible for the $1.00 per watt solar rebate was June 30, 2016.

At this time, Ameren Missouri's solar rebate program is fully subscribed to the $91.9 million funding level.

- Ameren Missouri does not anticipate making any additional funding available although solar rebate payments will not be suspended until the funding level has been fully paid.
- A reservation and queue system for solar rebates has been established based on the order that applications were received. Find the latest information regarding the **Solar Rebate Queue Status** online.
- Applications that have not received a written rebate commitment have been placed in the queue and will only receive a rebate commitment if older applications expire or are canceled.

Learn more about the Ameren Missouri Rebate Program:

Missouri Solar Rebate Tariff Information
Net Metering Complete Tariff
Net Metering Application/Agreement Only
Taxpayer Information Form
Individual Customer Affidavit
Business Customer Affidavit