

THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 5 Sec. 4 4th Revised Sheet No. 12

Canceling P.S.C. Mo. No. 5 Sec. 4 3rd Revised Sheet No. 12

For ALL TERRITORY

NET METERING RIDER  
RIDER NM

AVAILABILITY:

Electric service is available under this schedule at points on the Company's existing distribution facilities located within its service area for customers operating renewable fuel source generators.

Applicable to Customer-Generators with a Company approved interconnection agreement. This schedule is not applicable where the Customer's electrical generating system exceeds 100 kW.

The net metering service shall be available to Customer-Generators on a first-come, first-serve basis until the total rated generating capacity of net metering systems equals 5% of the Company's single-hour peak load during the previous year. Resale electric service will not be supplied under this schedule.

DEFINITIONS:

Customer-Generator:

The owner of a qualified electric energy generation unit which:

- a. Is powered by a renewable energy resource;
- b. Has an electrical generating system with a capacity of not more than one hundred kilowatts;
- c. Is located on a premises owned, operated, leased, or otherwise controlled by the Customer-Generator;
- d. Is interconnected and operated in parallel phase and synchronization with the Company;
- e. Is intended primarily to offset part or all of the Customer-Generator's own electrical energy requirements;
- f. Meets all applicable safety, performance, interconnection, and reliability standards established by the National Electrical Code, the National Electrical Safety Code, the Institute of Electrical and any local governing authorities; and
- g. Contains a mechanism that automatically disables the unit and interrupts the flow of electricity back onto the Company's electricity lines in the event that the service to the Customer-Generator is interrupted.

Renewable Energy Resources:

Electrical energy produced from wind, solar thermal sources, hydroelectric sources, photovoltaic cells and panels, fuel cells using hydrogen produced by ones of the above-named electrical energy sources, and other sources of energy that become available, and are certified as renewable by the Missouri Department of Natural Resources.

CHARACTER OF SERVICE:

Alternating current, 60 cycles, at the voltage and phase of the Company's established secondary distribution system serving the Customer-Generator's premise.

BILLING AND PAYMENT:

The Company shall render a bill for net consumption at approximately 30-day intervals based on the Company's regular tariff schedules as on file with the Missouri Public Service Commission. Net consumption is defined as the kWh supplied by the Company to the Customer-Generator minus kWh supplied by the Customer-Generator and returned to the Company's grid during the billing month. Any net consumption shall be valued monthly as follows:

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BILLING AND PAYMENT (continued):

To the extent the net consumption is positive (i.e. Customer-Generator took more kWh from the Company during the month than Customer-Generator produced), the eligible Customer-Generator will be billed in accordance with the Customer-Generator's otherwise applicable standard rate for Customer Charges, Demand Charges, and Energy Charges (for the net consumption).

To the extent the net consumption is negative (i.e. Customer-Generator produced more kWh during the month than the Company supplied), the Customer-Generator will be credited in accordance with the Company's annually calculated avoided fuel cost (as defined in the Company's tariff schedule CP) for the net energy (kWh) delivered to the Company. With the exception of the Energy Charge, all other applicable standard rate charges shall apply.

To the extent the net consumption is zero (i.e. Customer-Generator produced the same kWh during the month as supplied by the Company), the Customer-Generator will be Minimum billed in accordance with the eligible Customer-Generator's otherwise applicable standard rate.

TERMS AND CONDITIONS:

1. The Company will supply, own and maintain all necessary meters and associated equipment utilized for billing. If the Company's metering equipment at the Customer Generator's premise does not have the capability of measuring both the net energy produced and the net energy consumed, the Customer shall reimburse the Company for the cost to purchase and install sufficient metering. In addition, and for purposes of monitoring Customer generation and load, the Company may install at its expense, load research metering. The Customer shall supply, at no expense to the Company, a suitable location for meters and associated equipment used for billing and for load research. Such equipment shall be accessible at all times to Company personnel.
2. The Company shall have the right to require the Customer, at certain times and as electric operating conditions warrant, to limit the production of electrical energy from the generating facility to an amount no greater than the load at the Customer's facility of which the generating facility is a part.
3. The Customer shall furnish, install, operate and maintain in good order and repair without cost to the Company such relays, locks and seals, breakers, automatic synchronizers, disconnecting devices, and other control and protective devices as required by the NEC, NESC, IEEE or UL as being required as suitable for the operation of the generator in parallel with the Company's system.
4. The disconnect switch shall be under the exclusive control of the Company. The manual switch must have the capability to be locked out by Company personnel to isolate the Company's facilities in the event of an electrical outage on the Company's transmission and distribution facilities serving the Customer. This isolating device shall also serve as a means of isolation for the Customer's equipment during any customer maintenance activities, routine outages or emergencies. The Company shall give notice to the Customer before a manual switch is locked or an isolating device is used, if possible; and otherwise shall give notice as soon as practicable after locking or isolating the Customer's facilities.
5. The Customer may be required to reimburse the Company for any equipment or facilities required solely as a result of the installation by the Customer of generation in parallel with the Company's Service. This requirement is limited to equipment or facilities installed by the Company in excess of those required of the Company by the NEC, NESC, IEEE or UL.
6. The Customer shall notify the Company prior to the initial energizing and start-up testing of the Customer-owned generator, and the Company shall have the right to have a representative present at said test.

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TERMS AND CONDITIONS (continued):

7. If harmonics, voltage fluctuations, or other disruptive problems on the utility's system are directly attributable to the operation of the Customer's system, such program(s) shall be corrected at the Customer's expense.
8. No Customer's generating system shall damage the Company's system or equipment or present an undue hazard to Company personnel.
9. The Company requires an Interconnection Application/Agreement for net metering (see copy below) for conditions related to technical and safety aspects of parallel generation.
10. Service under this schedule is subject to the Company's Rules and Regulations on file with the Missouri Public Service Commission and any subsequently approved and in effect during the term of this service.

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RIDER NM

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

**For Customers Applying for Interconnection:**

If you are interested in applying for interconnection to The Empire District Electric Company's (Empire) electrical system, you should first contact Empire and ask for information related to interconnection of parallel generation equipment to Empire's system and you should understand this information before proceeding with this Application. If you wish to apply for interconnection to Empire's electrical system, please complete sections A, B, C and D, and attach the plans and specifications describing the net metering, parallel generation, and interconnection facilities (hereinafter collectively referred to as the "Customer-Generator's System") and submit them to Empire at:

The Empire District Electric Company  
602 Joplin  
Joplin, Missouri, 64801

You will be provided with an approval or denial of this Application. For Customer-Generators greater than 10 kW, Empire shall provide a decision within ninety (90) days. For Customer-Generators 10 kW or less, Empire shall provide a decision within thirty (30) days. 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 Empire, it shall become a binding contract and shall govern your relationship with Empire.

**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 Empire for review and completion of section G at:

The Empire District Electric Company  
602 Joplin  
Joplin, Missouri, 64801

Empire will complete the utility portion of section G and, upon receipt of a completed Application/Agreement form and payment of any applicable fees, permit interconnection of the Customer-Generator System to Empire's electrical system within fifteen (15) days of receipt by Empire if electric service already exists to the premises, unless Customer-Generator and Empire agree to a later date. Similarly, upon receipt of a completed Application/Agreement form and payment of any applicable fees, if electric service does not exist to the premises, Empire will permit interconnection of the Customer-Generator System to Empire's electrical system no later than fifteen (15) days after service is established to the premises, unless the Customer-Generator and Empire agree to a later date.

**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 Empire at:

The Empire District Electric Company  
602 Joplin  
Joplin, Missouri, 64801

Empire will review the new Application/Agreement and shall approve such, within fifteen (15) days of receipt by Empire 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.

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

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Service/Street Address (if different from above): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Daytime Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
Emergency Contact Phone: \_\_\_\_\_  
Empire Account No. (from Utility Bill): \_\_\_\_\_

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

Manufacturer Name Plate (if applicable) AC Powr Rating: \_\_\_\_\_ kW Voltage: \_\_\_\_\_ Volts  
System Type: Solar \_\_\_\_\_ Wind \_\_\_\_\_ Biomass \_\_\_\_\_ Fuel Cell \_\_\_\_\_ Other (describe) \_\_\_\_\_  
Service/Street Address: \_\_\_\_\_  
Inverter/Interconnection Equipment Manufacturer: \_\_\_\_\_  
Inverter/Interconnection Equipment Model No.: \_\_\_\_\_  
Are Required System Plans & Specifications attached? Yes \_\_\_\_\_ No \_\_\_\_\_  
Inverter/Interconnection Equipment Location (describe): \_\_\_\_\_  
Outdoor Manual/Utility Accessible & Lockable Disconnect Switch Location (describe): \_\_\_\_\_

Existing Electrical Service Capacity: \_\_\_\_\_ Amperes Voltage: \_\_\_\_\_ volts  
Service Character: Single Phase \_\_\_\_\_ Three Phase \_\_\_\_\_

**C. Installation Information / Hardware and Installation Compliance**

Person or Company Installing: \_\_\_\_\_  
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 Electric Safety Code (NESC), National Electric Code (NEC), Institute of Electrical and Electronics Engineers (IEEE), Underwriters Laboratories (UL), and all local governing authorities' requirements for electrical equipment and their installation. As applicable to System type, these requirements include, but are not limited to, UL 1741, IEEE 929-2000 and IEEE 1547. The proposed System has a lockable, visible disconnect device, accessible at all times to Empire personnel. The System is only required to include one lockable, visible disconnect device, accessible to Empire. 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 Empire's electrical system. The proposed System does have an anti-islanding function that prevents the generator from continuing to supply power when Empire's electrical 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 Empire's electrical system when the electrical system is not energized or not operating normally. These requirements are based on IEEE standards.

Signed (Installer): \_\_\_\_\_ Date: \_\_\_\_\_  
Name (Print): \_\_\_\_\_

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**D. Additional Terms and Conditions**

In addition to abiding by Empire'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 Empire, 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 Empire's electrical system, Empire may immediately disconnect and lock-out the Customer-Generator's System from Empire's electrical system. The Customer-Generator shall permit Empire's employees and inspector's reasonable access to inspect, test, and examine the Customer-Generator's System.

**2) Liability**

The Customer-Generator shall be held responsible for 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. In addition, any Customer-Generator with an interconnected generation system greater than 10 kW must carry no less than \$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.

**3) Interconnection Costs**

The Customer-Generator shall, at the Customer-Generator's cost and expense, install, operate, maintain, repair, and inspect, and shall be fully responsible for the Customer-Generator's System. The Customer-Generator further agrees to pay or reimburse to Empire all of Empire's Interconnection Costs. Interconnection Costs are the reasonable costs incurred by Empire for: (1) additional tests and analyses of the effects of the operation of the Customer-Generator's System on Empire's local distribution system, (2) additional metering, and (3) any necessary controls. These Interconnection Costs must be related to the installation of the physical facilities necessary to permit interconnected operation of the Customer-Generator's System with Empire's system and shall only include those costs, or corresponding costs, which would not have been incurred by Empire in providing service to the Customer-Generator solely as a consumer of electric energy from Empire pursuant to Empire's standard cost of service policies in effect at the time the Customer-Generator's System is first interconnected with Empire's system. Upon request, Empire shall provide the Customer-Generator with a non-binding estimate of Empire's Interconnection Costs based upon the plans and specifications provided by the Customer-Generator to Empire.

**4) Energy Pricing and Billing**

Section 386.890, RSMo Supp. 2007 sets forth the valuation and billing methods of electric energy provided by Empire to Customer-Generator and to Empire from Customer-Generator (described in the Company's tariff schedule NM and CP).

**5) Terms and Termination Rights**

This Agreement becomes effective when signed by both the Customer-Generator and Empire, 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 Empire 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 Empire'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 Empire. This agreement may also be terminated by approval of the Commission, in there is a change in statute that is determined to be applicable to this contract and necessitates its termination.

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RIDER NM**6) 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. Empire 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 the operational control of Customer-Generator's System must file a new Application/Agreement, and must receive authorization from Empire before the existing Customer-Generator System can remain interconnected with Empire'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 Consumer-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, Empire will assess no charges or fees for this transfer. Empire 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. Empire 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 Empire's electrical system. If any changes are planned to be made in 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 Empire a new Application/Agreement for the entire Customer-Generator System and all portions of the Application/Agreement must be completed.

**7) Dispute Resolution**

If any agreements between the Customer-Generator and Empire 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.

**8) Testing Requirement**

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 Empire's electrical system. Disconnecting the net metering unit from Empire'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 Empire, shall provide a copy of the test results to Empire. If the Customer-Generator is unable to provide a copy of the test results upon request, Empire 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 Empire, 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 Empire's system. If the Customer-Generator does not provide results of a test to Empire within thirty (30) days of receiving a request from Empire or the results of the test provided to Empire show that the Customer-Generator's net metering unit is not functioning correctly, Empire may immediately disconnect the Customer-Generator's System from Empire's system. The Customer-Generator's System shall not be reconnected to Empire's electrical system by the Customer-Generator until the Customer-Generator's System is repaired and operating in a normal and safe manner. These requirements are based on IEEE standards.

I have read, understand, and accept the provisions of Section D, subsections 1 through 8 of this Application/Agreement.

Signed (Customer-Generator): \_\_\_\_\_ Date: \_\_\_\_\_

DATE OF ISSUE January 3, 2008  
ISSUED BY Kelly S. Walters, Vice President, Joplin, MO

DATE EFFECTIVE February 2, 2008

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**E. Electrical Inspection**

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

Inspector Name (Print): \_\_\_\_\_

Inspector Certification: I am a Licensed Engineer in Missouri \_\_\_\_\_ or I am a Licensed Electrician in Missouri \_\_\_\_\_  
License No. \_\_\_\_\_.

Signed (Inspector): \_\_\_\_\_ Date: \_\_\_\_\_

**F. Customer-Generator Acknowledgement**

I am aware if 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 Empire'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 Empire'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 Empire's electrical system, I shall disconnect the Customer-Generator System and not reconnect it to Empire's electrical system until the Customer-Generator System is operating normally after repair or inspection. Further, I agree to notify Empire 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 Empire.

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

Signed (Customer-Generator): \_\_\_\_\_ Date: \_\_\_\_\_

**G. Utility Application Approval (completed by The Empire District Electric Company)**

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

This Application is approved by Empire on this \_\_\_\_\_ day of \_\_\_\_\_ (month). \_\_\_\_\_ (year).

Empire Representative Name (Print): \_\_\_\_\_

Signed Empire Representative: \_\_\_\_\_