

## **Procedures for Interconnecting a Certified Inverter-Based Small Generating Facility (Version 09-25)**

Butler Rural Electric Cooperative, Inc has adopted a uniform procedure to process requests for interconnecting small, inverter-based generating facilities. The procedure was developed by the Federal Energy Regulatory Commission (FERC) as a way of streamlining the process of Member interconnections and includes these documents:

- This description of the procedures involved in the interconnection process;
- The Application for interconnecting the generator;
- The Terms and Conditions of the interconnection;
- The Certificate of Completion
- Certificate of Liability Insurance or Release of Liability and Assumption of Risk
- Copy of Signed Residential Solar Energy Disclosure Statement

The process contains the following steps:

- 1.0 The Interconnection Member ("Member") completes the Interconnection Request ("Application") and submits it to Butler Rural Electric Cooperative, Inc. ("Cooperative") with a Certificate of Liability Insurance or Release of Liability and Assumption of Risk and other required documents.
- 2.0 The Cooperative acknowledges to the Member receipt of the Application within three Business Days of receipt.
- 3.0 The Cooperative evaluates the Application for completeness and notifies the Member within ten Business Days of receipt that the Application is or is not complete and, if not, advises what material is missing.
- 4.0 The Cooperative verifies that the Small Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process in the Small Generator Interconnection Procedures (SGIP), reprinted below. The Cooperative has 15 Business Days to complete this process. Unless the Cooperative determines and demonstrates that the Small Generating Facility cannot be interconnected safely and reliably, the Cooperative approves the Application and returns it to the Member. Note to Member: Please check with the Cooperative before submitting the Application if disconnection equipment is required.

### 4.0.1 Screens

- 4.0.1.1 The proposed Small Generating Facility's Point of Interconnection must be on a portion of the Cooperative's Distribution System that is subject to the Tariff.
- 4.0.1.2 For interconnection of a proposed Small Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed 15 % of the line section annual peak load as most recently measured at the substation. A line section is that portion of a Cooperative's electric

system connected to a Member bounded by automatic sectionalizing devices or the end of the distribution line.

- 4.0.1.3 For interconnection of a proposed Small Generating Facility to the load side of spot network protectors, the proposed Small Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5 % of a spot network's maximum load or 50 kW<sup>1</sup>. Residential small generating facilities shall not exceed 10kW.
- 4.0.1.4 The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10 % to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.
- 4.0.1.5 The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Member equipment on the system to exceed 87.5 % of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5 % of the short circuit interrupting capability.
- 4.0.1.6 Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnecting Member, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Cooperative's electric power system due to a loss of ground during the operating time of any anti-islanding function.

<b>Primary Distribution Line Type</b>	<b>Type of Interconnection to Primary Distribution Line</b>	<b>Result/Criteria</b>
Three-phase, three wire	3-phase or single phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded 3 phase or Single-phase, line-to-neutral	Pass screen

- 4.0.1.7 If the proposed Small Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on

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<sup>1</sup> A spot Network is a type of distribution system found within modern commercial buildings to provide high reliability of service to a single Member. (Standard Handbook for Electrical Engineers, 11<sup>th</sup> edition, Donald Fink, McGraw Hill Book Cooperative)

the shared secondary, including the proposed Small Generating Facility, shall not exceed 20 kW. Residential small generating facilities shall not exceed 10kW.

- 4.0.1.8 If the proposed Small Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240-volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20 % of the nameplate rating of the service transformer.
- 4.0.1.9 The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Small Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the point of interconnection).
- 4.0.1.10 No construction of facilities by the Cooperative on its own system shall be required to accommodate the Small Generating Facility.
- 4.0.1.11 The Cooperative reserves the right to deny any application or installation.

- 5.0 After installation, the Member returns the Certificate of Completion to the Cooperative. Prior to parallel operation, the Cooperative may inspect the Small Generating Facility for compliance with standards which may include a witness test, and may schedule appropriate metering replacement, if necessary.
- 6.0 The Cooperative notifies the Member in writing that interconnection of the Small Generating Facility is authorized. If the witness test is not satisfactory, the Cooperative has the right to disconnect the Small Generating Facility. The Member has no right to operate in parallel until a witness test has been performed, or previously waived on the Application. The Cooperative is obligated to complete this witness test within ten Business Days of the receipt of the Certificate of Completion. The Member is allowed one witness test of the solar array. If an additional visit to the site is required, Member will assessed a trip charge per the Cooperative's Service Fee Rate Schedule. Following the initial inspection, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Cooperative shall have access to the premises where the Facility is located for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its members. Member warrants it has, or has obtained from all other persons, all necessary rights to provide Cooperative with access to the premises and Facility, as necessary or appropriate for Cooperative to exercise its rights under this Agreement.
- 7.0 Contact Information – The Member must provide the contact information for the legal applicant (i.e., the Interconnection Member). If another entity is responsible for interfacing with the Cooperative, that contact information must be provided on the Application.

- 8.0 Ownership Information – Enter the legal names of the owner(s) of the Small Generating Facility. Include the percentage ownership (if any) by any utility or public utility holding Cooperative, or by any entity owned by either.
- 9.0 UL1741 Listed – This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.
- 10.0 The member agrees to follow all Cooperative required labeling per NESC Code Requirements graph listed on the Cooperative's website at [www.butler.coop/renewableenergy](http://www.butler.coop/renewableenergy). Labeling must include an engraved placard (white on red) min ½" lettering for the Main PV System Disconnect. Stickers will not pass inspection. Cooperative reserves the right to deny the installation if the array is not labeled correctly.
11. LIMITATION OF LIABILITY AND INDEMNIFICATION.
- a. Member assumes full responsibility for electric energy furnished to him or her at and past the Point of Interconnection and will indemnify the Cooperative against and hold the Cooperative harmless from all claims for both injuries to persons, including death resulting therefrom, and damages to property occurring upon the premises owned or operated by Member arising from electric power and energy delivered by Cooperative or in any way arising directly or indirectly from Member's Facility.
- b. The Cooperative's review process and any inspections are intended as a means to safeguard the Cooperative's facilities and personnel. The Member acknowledges and agrees that any review or acceptance of such plans, specifications and other information by the Cooperative shall not impose any liability on the Cooperative and does not guarantee the adequacy of the Member's equipment or DG facility to perform its intended function. The Cooperative disclaims any expertise or special knowledge relating to the design or performance of generating installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such installations.
- c. The Cooperative shall not be liable for either direct or consequential damages resulting from failures, interruptions, or voltage and wave form fluctuations occasioned by causes reasonably beyond the control of the Cooperative, including, but not limited to, acts of God or public enemy, sabotage and/or vandalism, accidents, fire, explosion, labor troubles, strikes, order of any court or judge granted in any bona fide adverse legal proceeding or action, or any order of any commission, tribunal or governmental authority having jurisdiction. The Cooperative shall not be liable in any event for consequential, special, incidental, or punitive damages, including, without limitation, loss of profits, loss of revenue, or loss of production. The Cooperative does not assume liability for any costs and damages arising from the disruption of the business of the Member.

## **Application for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10kW (Version 09-25)**

This Application is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the Application may be required. Application must be completed by the member.

### **Processing Fee**

A non-refundable processing fee of \$500 for generators 10kW or less. If larger than 10kW a \$1,000 non-refundable processing fee must accompany this application. Residential small generating facilities shall not exceed 10kW. The mailing address for processing fee is Butler Electric Cooperative, PO Box 1242, El Dorado, KS 67042.

### **Required Documents**

- Interconnection Application – Including physical signature or DocuSign confirmation
- Engineering/CAD Plan
- Proof of Homeowner's Insurance with \$300,000 in liability insurance
- Release of Liability Form – Including physical signature or DocuSign confirmation
- Permit from county of installation.
- Interconnection Processing Fee
- Copy of Signed Residential Solar Energy Disclosure Statement

### **Interconnection Member**

Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone (Day): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

### **Contact (if different from Interconnection Member)**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone (Day): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

Owner of the facility (include % ownership by any electric utility): \_\_\_\_\_

**Small Generating Facility Information**

The Member's Renewable Energy System shall be appropriately sized to the Member's anticipated electric load as follows:

Divide the member's historic consumption in kilowatt hours for the previous 12-month period by 8,760 and divide such quotient by a capacity factor of .288. If the Member does not have historic consumption data that adequately reflects the Member's consumption at such premises, the Member's historic consumption for the previous 12-month period shall be 7.15 kilowatt-hours per square foot of conditioned space; and round the amount determined pursuant up to the nearest one kilowatt alternating current power increment.

Location (if different from above): \_\_\_\_\_

Electric Service Cooperative: \_\_\_\_\_

Account Number: \_\_\_\_\_

Inverter Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

**Small Generating Facility Information (Cont)**

Nameplate Rating: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA) \_\_\_\_\_ (AC Volts) ☐ Single Phase ☐ Three Phase

System Design Capacity: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA)

Prime Mover: ☐ Photovoltaic ☐ Reciprocating Engine ☐ Fuel Cell ☐ Turbine ☐ Other \_\_\_\_\_

Energy Source: ☐ Solar ☐ Wind ☐ Hydro ☐ Diesel ☐ Natural Gas ☐ Fuel Oil  
☐ Other (describe) \_\_\_\_\_

Is the equipment UL1741 Listed? ☐ Yes ☐ No If Yes, attach manufacturer's cut-sheet showing UL1741 listing

Estimated Installation Date: \_\_\_\_\_ Estimated In-Service Date: \_\_\_\_\_

The Inverter Process is available only for inverter-based Small Generating Facilities that meet the codes, standards, and certification requirements of Attachments 3 and 4 of the FERC Small Generator Interconnection Procedures (SGIP), or the Cooperative has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Certificate of Liability or Release of Liability and Assumption of Risk Attached? ☐ Yes

Has member obtained a permit for the solar array installation? ☐ Yes

**\*\*Copy of permit must be attached to this application\*\***

**Interconnection Member Signature**

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility and return the Certificate of Completion when the Small Generating Facility has been installed.

Signed: \_\_\_\_\_

*Physical Signature Required or DocuSign Confirmation*

Title: \_\_\_\_\_ Date: \_\_\_\_\_

(For Cooperative use only)

**Contingent Approval to Interconnect the Small Generating Facility**

Interconnection of the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility and return of the Certificate of Completion.

Cooperative Signature: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Application ID number: \_\_\_\_\_

Cooperative waives inspection/witness test? ☐ Yes ☐ No

## **Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW (Version 09-25)**

### **1.0 Construction of the Facility**

The Interconnection Member (the "Member") may proceed to construct (including operational testing not to exceed two hours) the Small Generating Facility when Butler Rural Electric Cooperative, Inc. (the "Cooperative") approves the Interconnection Request (the "Application") and returns it to the Member.

### **2.0 Interconnection and Operation**

The Member may operate Small Generating Facility and interconnect with the Cooperative's electric system once all of the following have occurred:

- 2.1 Upon completing construction, the Member will cause the Small Generating Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and
- 2.2 The Member returns the Certificate of Completion to the Cooperative, and
- 2.3 The Cooperative has either:
  - 2.3.1 Completed its inspection of the Small Generating Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes. All inspections must be conducted by the Cooperative, within ten Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to the Parties. The Cooperative shall provide a written statement that the Small Generating Facility has passed inspection or shall notify the Member of what steps it must take to pass inspection as soon as practicable after the inspection takes place; or
  - 2.3.2 If the Cooperative does not schedule an inspection of the Small Generating Facility within ten business days after receiving the Certificate of Completion, the witness test is deemed waived (unless the Parties agree otherwise); or
  - 2.3.3 The Cooperative waives the right to inspect the Small Generating Facility.
- 2.4 The Cooperative has the right to disconnect the Small Generating Facility in the event of improper installation or failure to return the Certificate of Completion.
- 2.5 Revenue quality metering equipment must be installed and tested in accordance with applicable ANSI standards.

### **3.0 Safe Operations and Maintenance**

The Member shall be fully responsible to operate, maintain, and repair the Small Generating Facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.

### **4.0 Access**

The Cooperative shall have access to the disconnect switch (if the disconnect switch is required) and metering equipment of the Small Generating Facility at all times. The Cooperative shall provide reasonable notice to the Member when possible prior to using its right of access.

### **5.0 Disconnection**

The Cooperative may temporarily disconnect the Small Generating Facility upon the following conditions:

- 5.1 For scheduled outages upon reasonable notice.



- 5.2 For unscheduled outages or emergency conditions.
- 5.3 If the Small Generating Facility does not operate in the manner consistent with these Terms and Conditions.
- 5.4 The Cooperative shall inform the Member in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.

6.0 **Indemnification**

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

7.0 **Insurance**

The Parties agree to follow all applicable insurance requirements imposed by the state in which the Point of Interconnection is located. All insurance policies must be maintained with insurers authorized to do business in that state. The member will provide the cooperative a Certificate of Liability Insurance naming Butler Rural Electric Cooperative Ass'n Inc. as a certificate holder in the amount of \$100,000. A renewed certificate must be issued to the cooperative yearly. Failure to provide a current certificate of liability will be considered a violation of this agreement and could result in disconnection of small generating facility. Cooperative may accept Release and Assumption subject to its terms in lieu of Certificate of Liability Insurance.

8.0 **Termination**

The agreement to operate in parallel may be terminated under the following conditions:

8.1 **By the Member**

By providing written notice to the Cooperative.

8.2 **By the Cooperative**

If the Small Generating Facility fails to operate for any consecutive 12 month period or the Member fails to remedy a violation of these Terms and Conditions.

8.3 **Permanent Disconnection**

In the event this Agreement is terminated, the Cooperative shall have the right to disconnect its facilities or direct the Member to disconnect its Small Generating Facility.

8.4 **Survival Rights**

This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

9.0 **Assignment/Transfer of Ownership of the Facility**

This Agreement shall survive the transfer of ownership of the Small Generating Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies the Cooperative.

## Small Generating Facility Certificate of Completion

Is the Small Generating Facility owner-installed? ☐ Yes ☐ No

Interconnection Member: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_

Location of the Small Generating Facility (if different from above):

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone: (Day) \_\_\_\_\_ (Evening) \_\_\_\_\_

Fax: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

### **Electrician:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Day): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

License number: \_\_\_\_\_

Date Approval to Install Facility granted by the Cooperative: \_\_\_\_\_

Application ID number: \_\_\_\_\_

### **Inspection:**

The Small Generating Facility has been installed and inspected in compliance with the local building/electrical code of \_\_\_\_\_

\_\_\_\_\_  
Signed (Local electrical wiring inspector,  
or attach signed electrical inspection)

\_\_\_\_\_  
Print Name

Date: \_\_\_\_\_

As a condition of interconnection, you are required to send/fax a copy of this form along with a copy of the signed electrical permit to (insert Cooperative information below):

Name: \_\_\_\_\_

Cooperative: \_\_\_\_\_

Address: \_\_\_\_\_

Fax: \_\_\_\_\_

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### **Approval to Energize the Small Generating Facility (For Cooperative use only)**

Energizing the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW

Cooperative Signature: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_