

**Application, Procedures, and Terms and Conditions for Interconnecting
a Certified Inverter-Based Generation Facility No
Larger than 10 kW ("10 kW Inverter Process")**

Steps/Process

- 1.0 The Interconnection Customer ("Customer") completes the Interconnection Request ("Application") and submits it to **<Cooperative Name>** ("Cooperative"); refer to Attachment A.
- 2.0 The Cooperative acknowledges to the Customer receipt of the Application within ___ Business Days <FERC Small Generator Interconnection Procedure (SGIP) suggests 3 days> of receipt.
- 3.0 The Cooperative evaluates the Application for completeness and notifies the Customer within ___ Business Days <SGIP suggests 10 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 Generation Facility can be interconnected safely and reliably using the screening criteria contained in Attachment B. The Cooperative has ___ Business Days <SGIP suggests 15 days> to complete this process. Unless the Cooperative determines and demonstrates that the Generation Facility cannot be interconnected safely and reliably, the Cooperative approves the Application and returns it to the Customer. Note to Customer: Please check with the Cooperative before submitting the Application regarding specific requirements for the installation of readily accessible disconnection equipment.
- 5.0 After installation, the Customer returns the Certificate of Completion, Attachment A – Exhibit 4, to the Cooperative. Prior to parallel operation, the Cooperative may inspect the Generation 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 Customer in writing that interconnection of the Generation Facility is authorized. If the witness test is not satisfactory, the Cooperative has the right to disconnect the Generation Facility. The Customer 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 ___ Business Days <SGIP suggests 10 days> of the receipt of the Certificate of Completion. If the Cooperative does not inspect within ___ Business Days, or by mutual agreement of the Parties, the witness test is deemed waived.

- 7.0 Contact Information – The Customer must provide the contact information for the legal applicant (i.e., the Interconnection Customer). If another entity is responsible for interfacing with the Cooperative, that contact information must be provided on the Application as well.
- 8.0 Ownership Information – Enter the legal names of the owner(s) of the Generation Facility. Include the percentage ownership (if any) by any utility or public utility holding company 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" then is marked on the equipment and supporting documentation.

Attachment A – Application for Interconnecting a Certified Inverter-Based Generation Facility No Larger than 10 kW

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

Processing Fee

A non-refundable processing fee of \$_____ <Amount to be determined by Cooperative, unless the Cooperative is regulated—in that case, the amount of the fee may be prescribed> must accompany this Application.

Interconnection Customer

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Interconnection Customer)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Owner(s) of the facility (include % ownership by any electric utility): _____

Generation Facility Information

Location (if different from above): _____

Account Number: _____

<COOPERATIVE NAME>
10 kW INVERTER PROCESS

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)

Single Phase _____ Three Phase _____

System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: Photovoltaic
Turbine Other _____

Energy Source: Solar Wind Hydro
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 10 kW Inverter Process is available only for inverter-based Generation Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of Exhibits 1 and 2, or if the Cooperative has reviewed the design or tested the proposed Generation Facility and is satisfied that it is safe to operate.

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

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

<COOPERATIVE NAME>
10 kW INVERTER PROCESS

Interconnection Customer 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, Exhibit 3, for Interconnecting an Inverter-Based Generation Facility No Larger than 10 kW and return the Certificate of Completion, Exhibit 4, when the Generation Facility has been installed. I further agree to relinquish my claims to any Renewable Energy Credit (REC) that will be granted with my equipment as part of this agreement. **<Remove the previous statement as appropriate>**

Signature: _____

Title: _____ Date: _____

Contingent Approval to Interconnect the Generation Facility

(For Cooperative use only)

Interconnection of the Generation Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Generation Facility No Larger than 10 kW and return of the Certificate of Completion.

Cooperative Representative Signature:

Title: _____ Date: _____

Application ID number: _____

Cooperative waives inspection/witness test? Yes ___ No ___

EXHIBIT 1
CERTIFICATION CODES AND STANDARDS

When the stated versions of the following codes and standards are superseded by an approved revision, that revision shall apply.

IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

IEEE Standard 929-2000, IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

NFPA 70 (2014), National Electrical Code

ANSI C2-2012, National Electric Safety Code, published by IEEE

IEEE Standard C37.90.1-2012, IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

IEEE Standard C37.90.2-2004, IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Standard C37.108-2002, IEEE Guide for the Protection of Network Transformers

IEEE Standard C57.12.44-2005, IEEE Standard Requirements for Secondary Network Protectors

IEEE Standard C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Standard C62.45-2002, IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995, Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Standard 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms

NEMA MG 1-1998, Motors and Small Resources, Revision 3

IEEE Standard 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

EXHIBIT 2
CERTIFICATION

These interconnection procedures recognize the efficiency of “certification” of Generation Facility equipment packages that will help streamline the design and installation process.

Generation Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if all of the following conditions are met:

- 1) It has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in Attachment C;
- 2) It has been labeled and is publicly listed by such NRTL at the time of the Interconnection Application; and
- 3) Such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer’s literature accompanying the equipment.

Additional requirements related to Certification include the following:

- 1) The Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.
- 2) Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for on-site commissioning and acceptance testing by the parties to the interconnection nor follow-up production testing by the NRTL.
- 3) If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.
- 4) Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL and does not violate the interface components’ labeling and listing performed by the NRTL, no further design review, testing, or additional equipment on the customer side of the Point of Interconnection shall be required to meet the requirements of this

interconnection procedure.

- 5) An equipment package does not include equipment provided by the Cooperative.

The use of certified equipment does not automatically qualify the Interconnection Customer to be interconnected to the Cooperative Distribution System. An application will still need to be submitted and an interconnection review may still need to be performed to determine the compatibility of the Generation Facility with the Cooperative Distribution System.

Exhibit 3

**Terms and Conditions for Interconnecting an Inverter-Based
Generation Facility No Larger than 10 kW**

1.0 Construction of the Facility

The Interconnection Customer (the "Customer") may proceed to construct the Generation Facility when <Cooperative Name> (the "Cooperative") approves the Interconnection Request (the "Application") and returns it to the Customer.

2.0 Interconnection and Operation

The Customer may operate the Generation Facility and interconnect with the Cooperative's Distribution System once all of the following have occurred:

2.1 Upon completing construction, the Customer causes the Generation Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and

2.2 The Customer returns the Certificate of Completion to the Cooperative, and

2.3 The Cooperative has exercised one of the following three options:

2.3.1 Completed its inspection and witness test of the Generation Facility to ensure that all equipment has been appropriately installed, that all electrical connections have been made in accordance with applicable codes, and that operation of the Generation Facility is in compliance with applicable interconnection standards. All inspections and testing must be conducted by the Cooperative, at its own expense, within 10 Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to all Parties. The Cooperative shall provide a written statement that the Generation Facility has passed inspection and the witness test or shall notify the Customer 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 Generation Facility within 10 business days after receiving the Certificate of Completion, the inspection and witness test is deemed waived (unless the Parties agree otherwise); or

2.3.3 The Cooperative waives the right to inspect the Generation Facility.

2.4 The Cooperative has the right to disconnect the Generation 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 Customer shall be fully responsible for operating, maintaining, and repairing the Generation 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 switch¹ and metering equipment of the Generation Facility at all times. The Cooperative shall provide reasonable notice to the Customer, when possible, prior to using its right of access.

5.0 Disconnection

The Cooperative may temporarily disconnect the Generation 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 Generation Facility does not operate in the manner consistent with these Terms and Conditions; and

5.4 The Cooperative shall inform the Customer in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.

6.0 Indemnification

The Parties shall at all times indemnify, defend, and save the other Party harmless from any and all damages, losses, and 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 other Party's actions or inactions of its obligations under this agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

7.0 Insurance

In connection with the Customer's performance of its duties and obligations under this Agreement, the Customer shall obtain and continually maintain, during the term of the Agreement, general liability insurance written on a standard occurrence form or other form acceptable to the Cooperative, covering bodily injury and property damage liability with a combined single limit of at least _____ <SGIP suggests Three hundred thousand dollars (\$300,000)> for each occurrence.

The Customer shall furnish the required insurance certificates and endorsements to the Cooperative prior to the initial operation of the Generation Facility. Thereafter, the Cooperative shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance.

¹ A disconnect switch isolates the DG equipment for purposes of safety during maintenance and emergency conditions. The Cooperative may require a disconnect device to be provided, installed by, and paid for by the Customer, accessible to and lockable by Cooperative personnel on the secondary voltage level, which may include a secondary breaker or switch. The switch must be clearly labeled as a DG disconnect switch.

Failure of the Customer or Cooperative to enforce the minimum levels of insurance does not relieve the Customer from maintaining such levels of insurance and shall in no way relieve or limit the Customer's obligations and liabilities under other provisions of this Agreement.

All insurance certificates, endorsements, cancellations, terminations, alterations, and material changes of the general liability insurance required shall be issued and submitted to the Cooperative.

8.0 Limitation of Liability

Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under paragraph 6.0.

9.0 Termination

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

9.1 By the Customer

By providing written notice to the Cooperative;

9.2 By the Cooperative

If the Generation Facility fails to operate for any consecutive 12-month period, or the Customer fails to remedy a violation of these Terms and Conditions;

9.3 Permanent Disconnection

In the event this Agreement is terminated, the Cooperative shall have the right to disconnect its facilities or direct the Customer to disconnect its Generation Facility; or

9.4 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 arise under the Agreement.

10.0 Assignment/Transfer of Ownership of the Facility

This Agreement shall survive the transfer of ownership of the Generation 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.

Exhibit 4 - Generation Facility Certificate of Completion

Is the Generation Facility owner-installed? Yes _____ No _____

Interconnection Customer:

Contact Person: _____

Address: _____

Location of the Generation Facility (if different from above):

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 of Approval to Install Facility granted by the Cooperative: _____

Application ID number: _____

Inspection:

The Generation Facility has been installed and inspected in compliance with the local

building/electrical code of _____

Signature (Local electrical wiring inspector, or attach signed electrical inspection):

Print Name: _____

Date: _____

**<COOPERATIVE NAME>
10 kW INVERTER PROCESS**

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:

Cooperative
Attn:
Address
Fax

Approval to Energize the Generation Facility (For Cooperative use only)

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

Cooperative Representative Signature: _____

Title: _____ Date: _____

Attachment B
SCREENING CRITERIA

To qualify for interconnection using the 10 kW Inverter Process, the proposed Generation Facility must pass the following screens:

- 1) For interconnection of a proposed Generation Facility to a radial distribution circuit, the aggregated generation, including the proposed Generation Facility, on the circuit does not exceed 15% of the line section's annual peak load as most recently measured or calculated for the line section. A line section is that portion of the Cooperative's Distribution System connected to a customer, bounded by automatic sectionalizing devices or the end of the distribution line.
- 2) The proposed Generation Facility, in aggregation with other generation on the distribution circuit, does not contribute more than 10% to the distribution circuit's maximum fault current on the distribution feeder voltage (primary) level nearest the proposed Point of Interconnection.
- 3) The proposed Generation Facility, in aggregate with other generation on the distribution circuit, does not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5% of the short circuit interrupting capability.
- 4) Using Table 1 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 Interconnection Customer, including line configuration and the transformer connection, to limit the potential for creating over-voltages on the Cooperative's Distribution System due to a loss of ground during the operating time of any anti-islanding function.

Table 1. Determining the Type of Interconnection to a Primary Distribution Line

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

- 5) If the proposed Small Generation Facility is single-phase and is to be interconnected on a center tap neutral of a 240-volt service, its addition does

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.

- 6) No construction of facilities by the Cooperative on the Cooperative Distribution System shall be required to accommodate the interconnection of the Generation Facility.