

CLAVERACK RURAL ELECTRIC COOPERATIVE

Alternative Generator Interconnection Requirements

Claverack allows interconnection of distributed generation, including windmills and solar panels. **The following documents will be required for any interconnection:**

Application for Operation of Interconnected Customer-Owned Generation

This 4-page document gives Claverack the preliminary information we need to ensure safe interconnection of the member's equipment. A detailed site plan including nearby roads, driveways, buildings and utility equipment (poles, lines, transformers, etc.) must also be included. Claverack does require a 100 amp meter base and visibly open disconnect to be installed in an accessible area between the generator and the interconnection point.

Claverack will supply a utility grade meter and install it in the system's dedicated meter base at the time of interconnection. **Any system interconnected to a residential account may be designed to generate no more than 110% of the member's annual electric consumption during the 12 preceding months of the date of interconnection. The capacity of the system may not exceed 25 kW unless approved by the cooperative. *This form must be submitted to Claverack at least 10 days prior to the proposed interconnection date.***

Interconnection and Purchased Power Agreement (pink border)

This legal contract is a 3-party agreement between you, the member, Claverack Rural Electric Cooperative and Allegheny Electric Cooperative, the generator of the power provided to Claverack. This contract clearly defines the liabilities and responsibilities of each party and includes member insurance recommendations. ***This form will be signed by the member and Claverack representative at the time of interconnection.***

Renewable Energy Assistance Program (REAP) Application (green border)

This document provides Claverack with resources to help defray the costs of the interconnection of your generator. Members are asked to completely fill out the "Member Section" of the application, which will be included when the Cooperative applies for the grant. Members may choose not to complete this cooperative grant application, but they will be billed for the interconnection costs incurred by the Cooperative. ***This form will be signed by the member at the time of interconnection.***

Members must fill out all documents completely. Documents will not be revised, amended or altered in any way.

To ensure the highest degree of safety and power quality, members interconnecting systems to Claverack lines without submitting these documents will be disconnected immediately. The owner of any alternative energy system must inform the cooperative of any changes to the system and obtain the cooperative's approval, in writing, before the changes are made.

CLAVERACK RURAL ELECTRIC COOPERATIVE

Application for Operation of Interconnected Customer-Owned Generation

This application must be completed and returned to the Cooperative representative to begin processing the request. *This application is used by the Cooperative to determine the required equipment configuration for the member interface. Every effort should be made to supply as much information as possible.*

*NOTE: Members installing direct grid interconnected (non-battery inverter) Skystream model 3.7 wind generators and/or solar arrays of less than 15 KW only need to complete the portions of this application that are in **bold** print. For other types of generation, the entire application must be completed.

PART 1

MEMBER/APPLICANT INFORMATION

Name: _____

Mailing Address: _____

City: _____ **County:** _____ **State:** _____ **Zip Code:** _____

Daytime Phone: _____ **Evening Phone:** _____

Account Number: _____ **Map Number:** _____

Email Address: _____ **Fax:** _____

PROJECT DESIGN/ENGINEERING (ARCHITECT) (if applicable)

Company: _____ **Contact Person:** _____

Mailing Address: _____

City: _____ **County:** _____ **State:** _____ **Zip Code:** _____

Phone: _____ **Fax:** _____

Email Address: _____

ELECTRICAL CONTRACTOR (if applicable)

Company: _____ **Contact Person:** _____

Mailing Address: _____

City: _____ **County:** _____ **State:** _____ **Zip Code:** _____

Phone: _____ **Fax:** _____

Email Address: _____

TYPE OF GENERATOR (as applicable)

Photovoltaic (Solar)	_____	Windmill	_____	Micro turbine	_____
Diesel Engine	_____	Gas Engine	_____	Turbine	_____
Hydro	_____	Bio-gas	_____	Other	_____

ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION

The following information is necessary to help properly design the Cooperative-customer interconnection. This information is not intended as a commitment or contract for billing purposes.

Electricity Use, Production and Purchases

(A) Anticipated annual electricity consumption of the facility or site: _____ (kWh)

(B) Anticipated annual electricity production of the generation system : _____ (kWh)

(C) Anticipated annual electricity purchases [i.e. (a) minus (b)]: _____ (kWh)*

* Value will be negative if there are net sales to the utility.

Mode of Operation

Isolated _____ Paralleling _____ Power Export _____

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including a detailed description of its planned location, the frequency with which you plan to operate it and the anticipated hours of operation.

Estimated In-service Date: _____

PART 2

INVERTER DATA (if applicable)

Manufacturer: _____ Model: _____
Rated Power Factor (%): _____ Rated Voltage (Volts): _____ Rated Amperes: _____
Inverter Type (Ferro resonant, step, pulse-width modulation, etc.): _____
Inverter Rating (KW): _____ Phases: _____
Type commutation: Forced _____ Line _____

Note: Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms. All inverters interconnected to Claverack lines must be in accordance with UL 1741, Grid-Tie Inverter Standard and IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems.

SHORT CIRCUIT CURRENT CONTRIBUTION AND UNIT INRUSH CURRENT OF THE PROPOSED GENERATING FACILITY

Distributed Generator Short Circuit Current

Single Phase to Ground _____ Amperes
Three-Phase Symmetrical _____ Amperes
Three-Phase Asymmetrical _____ Amperes

Does the Facility Start with the Aid of Grid Power? _____ Yes _____ No

If yes, what is the inrush Current? _____ Amperes (inrush current)

Will this Generation be used to primarily offset the members' electrical energy consumption?
_____ Yes _____ No

If yes, generators up to 50 KW for residential consumer class and up to 500 KW for all other consumer classes qualify for the Cooperative's net metering AES service rate.

ADDITIONAL INFORMATION

In addition to the items listed above, please attach the following to this application:

- **Detailed, one-line diagram of the proposed facility**
- all applicable elementary diagrams
- control schematics
- **site plan**
- major equipment (generators, transformers, inverters, circuit breakers, protective relays, etc.)
- specifications
- test reports
- any other applicable drawings or documents necessary for the proper design of the interconnection

SIGN OFF AREA

Claverack is committed to ensuring the highest degree of safety and power quality to all members. Failure to comply with any of the following will result in immediate disconnection of the member from Claverack lines.

Any interconnected generator must have a meter base installed between the generator and the interconnection point prior to interconnection. Claverack will provide a meter at this point to continually monitor the output of the generator. This meter is separate and independent from the house meter, which performs the net metering functions. The system must also include a visibly open disconnect between the generator and the dedicated output meter base.

Claverack personnel must make a site visit to inspect the generator and set the appropriate meters prior to interconnection of any system. Members must call to schedule this appointment. When scheduling this appointment with Claverack, please allow 10 business days (see contact information below).

The member agrees to complete, sign and submit the required documentation (this application, the Interconnection and Power Purchase Agreement and the Renewable Energy Assistance Program application). Application must be received by Claverack 10 days prior to interconnection; member must be available to sign remaining forms on the day of interconnection. Please note that interconnection fees may apply if all required documents are not complete.

As a Claverack member applying for interconnection, I understand that it is my responsibility to submit all required information and documentation and to operate my equipment within the guidelines set forth by the Cooperative's policy on alternate energy production (B-19). I take complete responsibility for the installation and operation of the generator and will not, in any manner, hold Claverack responsible for the performance of the generator. I understand that Claverack may share the generation data from my generator and use this data for public and member educational purposes.

All product warranties and performance claims are limited to that of the manufacturer or installer. The Cooperative provides no representations and/or warranties of any kind, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose; the Cooperative will not perform warranty repairs of any kind. The Cooperative is not responsible, and will not be held liable for special, indirect or consequential damages including non-performance issues, injury or damage to property or person, whether in contract, in tort, under warranty or otherwise. Furthermore, member hereby agrees to hold Claverack harmless and indemnify Claverack for any harm and/or damages resulting from member's interconnection.

Applicant Signature

Date

Application Received By

Date

Cooperative contact: Lynn Jennings, Member Services Representative

Address: 32750 Rt. 6, Wysox, PA 18854

Phone: (570) 265-2167

Fax: (570) 265-6019

E-mail: lynnj@ctenterprises.org