

**Garkane Energy**

**Net Metering  
Installation  
Handbook**

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OVERVIEW OF NET METERING PROGRAM

The goal of this handbook is to describe the steps in the net metering interconnection process. This handbook outlines the requirements for receiving interconnection approval from Garkane Energy for the installation of secondary generation separate from the Cooperative

- All interconnection applications must qualify for, participate in and comply with all the rules of Garkane Energy, [Visit [www.garkaneenergy.com](http://www.garkaneenergy.com) for a list of detailed requirements and the most up to date listing of NET tariffs.]
- All energy credits issued for a generation facility belong to the member on the account.
- Garkane Energy will install a digital meter that will include two displays on the meter for all program participants. The meter will be maintained and serviced by the COOP.
- Garkane Energy is not responsible for operation, maintenance, or energy production of secondary generation facilities installed through this program.
- Garkane Energy is not responsible for consumption changes or billing changes because of the member's decision to install a secondary generation facility or energy storage system.
- Secondary generation facilities must be permitted and pass inspection by the local building authority prior to Garkane doing their on-site commissioning test and setting the NET meter.
- Once installed, if any modifications are made to a generation facility or an energy storage system, it must be inspected and approved by our engineering staff and Meter Tech.

## **Secondary Generation Codes and Standards**

Secondary generating facilities separate from the cooperative must be built in compliance with the local building authority rules and regulations. Before Garkane Energy will commence a system commission check, the inspector having jurisdiction must inspect and approve the member's electrical equipment & installation.

Sevier County: 435-893-0420

Piute County: 435-577-2949

Kane County: 435-644-4985

Garfield County: 435-676-1111

Wayne County: 435-979-1279

Kanab City: 435-644-2534

Coconino County: 928-679-7120

For more information, please visit the resources listed below:

- IEEE standards
- National Electric Code Standards
- Utah Building Codes
- Utah Interconnection Rules – Rule R746-312 Electrical interconnection
- Other applicable standards required by the Utah Public Service Commission

## **Application for Service**

Any member wishing to install a secondary generating facility must complete a NET Metering application which can be found on Garkane's website ([www.garkaneenergy.com](http://www.garkaneenergy.com)) under Service Application-Net Metering.

The following must also be provided to complete the application packet:

- \$240.00 non-refundable Engineering Fee
- System location and layout including equipment placement locations and proposed interconnection point
- Single line wiring diagram with equipment noted and specified
- System capacity calculations

- Wiring diagram and specs
- Required signage plans and details

Submit the application and supporting documents to Garkane's Field Service Rep, Taleana Virostko, at [fsr@garkaneenergy.com](mailto:fsr@garkaneenergy.com). Member will be notified within 3 business days of receipt of application packet.

### **Approval Process**

Once Garkane has a complete application packet, Garkane's Energy Advisor, James Clegg, will contact the member to ensure they have accessed our website and will address any additional questions. At this point the application packet will be passed to Garkane's Engineering department, for final review and approval. The system application and design will be reviewed for its compliance with the terms of the appropriate Garkane Net Metering Tariff, IEEE 1547 and Garkane's interconnection review screens. Notification of approval or rejection will be provided to the member within 10 business days of receipt of all required application information. If the application is deemed incomplete, the member applying will have 10 business days to submit necessary documents to make the application complete. If the member does not comply within this time frame, their application for interconnection will be deemed withdrawn.

***If a system upgrade is necessary to accommodate the secondary generation facility, all costs will be paid by member and the system upgrade(s) will be completed by Garkane's Operations Department before approval for operation will be granted.***

### **Scheduling and Site Readiness**

When the member has been notified of project approval, the member will be required to pay a \$470 non-refundable Commissioning Fee. When this fee has been paid the Meter Technician assigned to their area will establish communication with the member. Once the secondary generating facility is installed, functional, and has passed an inspection with the local building inspector, the Meter Technician needs to be notified by the member. Garkane's Meter Technician then has 10 business days to complete an on-site commissioning test, and the installation of a NET meter. If the commissioning test does not pass, Garkane Energy will give the member 30 days to correct any deficiencies. If the member fails to address and resolve the deficiencies to the satisfaction of Garkane within the 30 days, the interconnection request will be deemed withdrawn.

***Garkane assumes no liability for unforeseen factors that delay the project completion date.***

Garkane Energy will own, design, construct, operate, and maintain all facilities, including meters on Garkane’s side of the point of attachment.

**Extra Trip Fee**

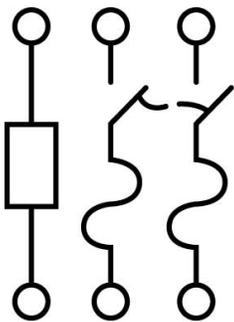
Garkane Energy reserves the right to assess a flat charge to any member causing a project delay for Garkane metering personnel. A project delay is any trip to the job site made by Garkane where the scheduled work could not be completed because conditions at the site were different than submitted and/or incomplete rendering the generating facility non-functional. A minimum charge of \$200 per occurrence will be assessed.

**Unapproved Net Meters**

If Garkane staff finds a net-generation facility without it being approved and commissioned by staff, the account will be disconnected immediately for safety reasons. And will incur a \$300 call out fee.

**Specifications and Certifications**

An interconnection member of Garkane Energy must install and maintain a manual disconnect switch that will disconnect the generating facility from the public utility's distribution system. The disconnect switch must be a lockable, load-break switch that plainly indicates whether it is in the open or closed position. The disconnect switch must always be readily accessible to the public utility and located within 10 feet of the public utility's meter. Garkane requires a non-fusible disconnect switch, i.e. Square D Du322Rb, Siemens HNF362H. If another switch is desired it requires specific approval by Garkane.



A secondary generating facility must be certified as complying with the following standards, as applicable:

- (a) IEEE standards; and
- (b) UL1741.

An equipment package will be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized UL testing laboratory and has been listed by the laboratory for continuous interactive operation with an electric distribution system in compliance with relevant codes and standards.

### **Garkane's Right to Operate Manual Disconnect**

Any of the following conditions shall be cause for Garkane Energy to manually disconnect a secondary generating facility from its system:

- Emergencies or maintenance requirements on the public utility's distribution system;
- Hazardous conditions existing on the public utility's distribution system that may affect safety of the general public or public utility employees due to the operation of the customer generating facility or protective equipment as determined by the public utility; or
- Adverse electrical effects (such as high or low voltage, unacceptable harmonic levels, or RFI interference) on the electrical equipment of the public utility's other electric consumers caused by the customer generating facility as determined by the public utility.

### **Secondary Generation Modifications**

Subsequent to becoming interconnected to Garkane Energy, the interconnection member must notify the public utility of all proposed modifications to the generating facility or equipment package that will increase the generation capacity of a member generation facility.

- Notification must be provided in the form of a new application submitted in accordance with the level of review required by this rule; and
- The application must specify the proposed modification(s).

### **Level 1 Interconnection Review Screens**

Garkane Energy shall perform its review of interconnection requests using the screens set forth below as applicable.

- Generator must be installed at a service receiving electric service on or adjacent to the customer's Primary Service, subject to the company's service requirements.

- Generator must be incidental to the Primary Service, installed on the customer's premises, and used to supply some or all of the customer's loads.
- Generator capacity shall not be more than 25 kilowatts.
- For interconnection of a proposed generating facility to a radial distribution circuit, the aggregate generation on the distribution circuit, including the proposed generating facility, must not exceed 15 percent of the distribution circuit's total highest annual peak load, as measured at the substation. For the purposes of this subsection, annual peak load will be based on measurements taken over the 60 months previous to the submittal of the application, measured for the circuit at the nearest applicable substation.
- The proposed generating facility, in aggregation with other generation on the distribution circuit to which the proposed generating facility will interconnect, must not contribute more than 10 percent to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of common coupling.
- Generator must have a maximum output less than 80% of the installed transformer capacity at the Primary Service.
- If the proposed generating facility is to be connected to a single-phase shared secondary, the aggregate generation capacity connected to the shared secondary, including the proposed generating facility, must not exceed 20 kilowatts.
- If a proposed single-phase generating facility is to be connected to a transformer center tap neutral of a 240 volt service, the addition of the proposed generating facility must not create a current imbalance between the two sides of the 240 volt service of more than 20 percent of nameplate rating of the service transformer.
- No construction of facilities by the public utility on its own system shall be required to accommodate the generating facility. If construction of facilities is needed to accommodate the generation facility Garkane may choose to complete the "make ready" improvements if paid for by the interconnection applicant.
- The aggregate generation capacity on the distribution circuit to which the proposed generating facility will interconnect, including the capacity of the proposed generating facility, must not cause any distribution protective equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or customer equipment on the electric distribution system, to exceed 90 percent of the short circuit interrupting capability of the equipment. In addition, a

proposed generating facility must not be connected to a circuit that already exceeds 90 percent of the circuit's short circuit interrupting capability, prior to interconnection of the facility.

- Generator must have the same output voltage and phasing as the Primary Service.
- Generator must be certified “anti islanding” capability per UL1741.
- Must be IEEE 1547 compliant.
- Generator must have output voltage with less than 1% Total Harmonic Distortion (THD), current output with less than 2% THD, and be operated with a 1.0 to .95% lagging Power Factor. Leading power factor operation will not be permitted.
- Generator must be provided with a “Visible Disconnect Switch” per NESC requirements, which can be padlocked in the OPEN position and is accessible to Garkane personnel at all times. Disconnect must be permanently and visibly marked as “GENERATOR DISCONNECT” in letters at least 2” high. The disconnect shall be located within 10 ft of the utility metering location.
- The electrical function, operation, or capacity of a customer generation system, at the point of connection to the electrical corporation’s distribution system, may not compromise the quality of service to the electrical corporation’s other customers.
- The point of interconnection shall be on the load side of the member’s main breaker.
- If a proposed single-phase generating facility is to be connected to a transformer center tap neutral of a 240 volt service, the addition of the proposed generating facility must not create a current imbalance between the two sides of the 240 volt service of more than 20 percent of nameplate rating of the service transformer
- No construction of facilities by the public utility on its own system shall be required to accommodate the generating facility.