

I HAVE THE POWER TO *connect*

*For net-metering customers who
want to interconnect up to 2 megawatts
of customer generation*

To protect the electric reliability and safety of our customers, we look at the big picture

Your project may affect the electrical reliability and safety of our other customers. Consequently you may be asked to purchase equipment outside the design scope of your project to eliminate those risks. Pacific Power considers the issues below for each interconnection, especially the larger ones.

- Power size and type of customer generation already connected (or planned to be connected) to the circuit.
- Locations of line reclosers and line regulators between the point of interconnection of your customer generation and the power system source substation.
- Minimum amount of power consumed by the existing customers on the circuit.
- The dead time between the interruption of fault current and the automatic reclosing of the fault interrupting devices on the circuit.
- Minimum power consumed by the customers connected to the substation transformer.
- Type of protection system used for the power transformer at the power system source substation.



Pacific Power welcomes your interest in customer generation. Our goal is to make the process for connecting to our system easy to understand so there are no unexpected and costly surprises after you begin your project. With that goal in mind, we have created this guide to get you started.

Every interconnection project is unique and we encourage you to contact us during the planning process and before you purchase any equipment. We can help you plan technical solutions for your project to ensure a high level of reliability and power quality – so our system and your interconnection will function properly.

This guide will introduce you to the general requirements and processes to connect to Pacific Power's system. Detailed technical requirements are contained in the following documents, which should be reviewed by you or the technical experts for your project:

- Interconnection requirements for customer generation available at pacificpower.net/customergeneration
- IEEE 1547
- UL 1741

Note that most generator installers should already be familiar with IEEE 1547 and UL 1741, or the documents are available online for a fee.

Also note, net metering rules, credits and rates are subject to the oversight and changes made by the applicable state public utility commission.



Pacific Power's general interconnection requirements

If you wish to connect generators to Pacific Power's energy grid you must ensure your projects do not compromise the safety, reliability and operability of the energy grid or place other customers' equipment at risk. This may increase project costs beyond your original scope.

A few of the technical requirements for interconnection of customer generation to the energy grid are:

- You will be required to provide an "anti-islanding" scheme. Islanding is a condition in which a portion of Pacific Power's system can stay energized and operate by itself even when our power is de-energized. If warranted, you will be required to pay for protection against islanding.
- Your generating facility must include a UL listed AC disconnect switch that provides a visible break, is lockable in the open position, and is located between the production meter and the sub-panel or other connection to the generating facility. Your disconnect switch must be accessible to Pacific Power personnel at any time of the day. Specific requirements may vary by state and system size.
- Your generation system shall not contribute to transient overvoltage conditions. This is accomplished either by using inverters that comply with the most recent version of IEEE 1547, or by effectively grounding your generation system.
- The protection system at your generation site must meet the latest IEEE 1547 standard and interconnection requirements for customer generation. If it doesn't, you will be responsible for purchasing and installing additional protection equipment.
- Please note, net metering rules, credits and rates are subject to the oversight and changes made by the applicable state public utility commission.

Inverter-based interconnection

Inverter-based generators include solar, fuel cell, small-scale wind systems and energy storage systems. Each interconnection project is assigned a 'Level' determined by the size and characteristics of the customer generation technology to be used:

Level	Customer Generation system size	Customer Generation technology
Level 1	Less than 25 kilowatts	Inverter based
Level 2	25 kilowatts - 2 megawatts	Inverter based
Level 3	25 kilowatts - 2 megawatts	Inverter based Non-inverter based

In addition to the general interconnection requirements listed above, each Level has additional interconnection requirements. Here are some of those:

Level 1

- The total combined customer generation power rating on the circuit with the addition of your system cannot exceed a reasonable portion of the total circuit annual peak load.
- The inverter to be connected is UL 1741 approved.

Level 2

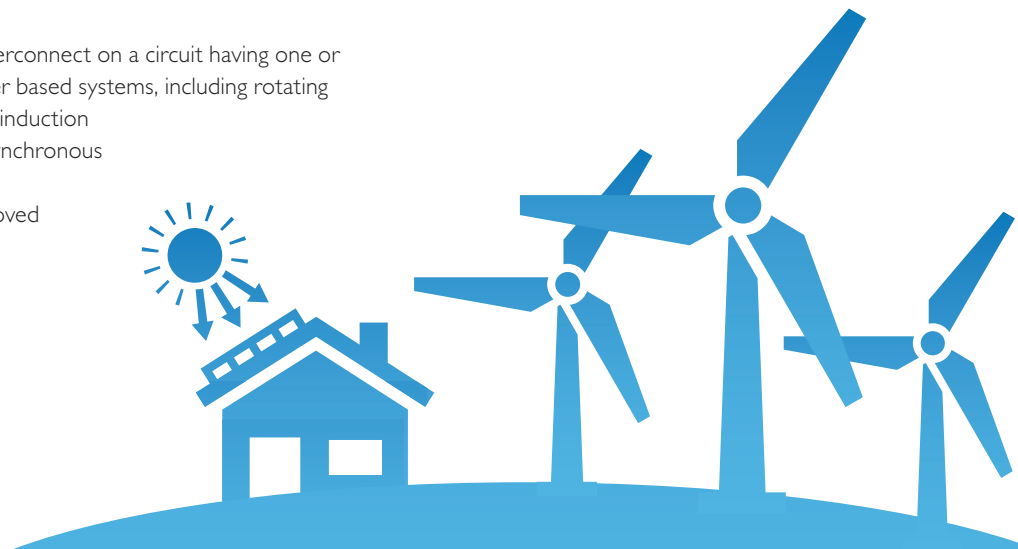
- You must meet the requirements for Level 1 systems.
- The aggregate generation capacity connected to the circuit, including your system, may not contribute more than a safe portion of the circuit's maximum fault current.
- If you want to interconnect on a circuit having one or more non-inverter based systems, including rotating machines such as induction generators and synchronous generators, your project will be moved to Level 3.

Level 3 – Inverter-based or non-inverter based interconnection

Non-inverter based systems, irrespective of power capacity, will be evaluated in the Level 3 category. Inverter-based customer generation projects that do not meet the requirements for Level 2 will also be classified as Level 3.

A few requirements are listed below:

- All non-inverter based interconnection requests will be processed per a state-mandated interconnection process. Learn more about the requirements for your state at pacificpower.net/customergeneration.
- Level 3 interconnection requests may require one or more interconnection studies be performed by Pacific Power to determine feasibility, system impact, and cost of safely connecting your generation facilities to our system. You will be responsible for paying for the interconnection studies at our actual costs.
- Based on the interconnection studies, you may be responsible for purchasing and installing any necessary protection requirements such as fault detection schemes, reclose blocking, direct transfer trip or different breaker tripping schemes.



Pacific Power's general interconnection process

- Step 1.** Select a designer/installer who can build your project to conform to Pacific Power's interconnection requirements, IEEE 1547 and UL 1741. *Please protect your Pacific Power account information to prevent fraudulent applications being submitted on your behalf.*
- Step 2.** Complete a Net Metering Application/Agreement available at pacificpower.net/customergeneration. If you have any questions, call us toll free at 1-800-625-6078.
- Step 3.** Submit your application and application fee, if required for your state. Pacific Power will review it and let you know if there are issues needing further study. The review period typically takes 15 to 30 business days.
- Step 4.** Receive approval from Pacific Power via email.
- Step 5.** Install your project and have it inspected by the local authorities (city or county electrical inspector or other authority for your area).
- Step 6.** Submit your approved electrical inspection form from the local authority to Pacific Power.
- Step 7.** Pacific Power will install a net meter within 10 days of receipt of your approved inspection.
- Step 8.** Start generating electricity!

Interconnection process timeline

